

GenCore version 5.1.1.6
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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:17:14 ; Search time 41 Seconds
(without alignments)
4185.573 Million cell updates/sec

Title: US-09-581-241A-4
Perfect score: 2823
Sequence: 1 MENMENDEIVGPPFPFI.....TKIDGKAIREILKKPVAKM 548

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1288442 seqs, 313154207 residues

Total number of hits satisfying chosen parameters: 1288442

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database : Published Applications AA:*

1: /cgn2_6/prodata/1/pubpaa/US07_PUBCOMB.pep.*
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5: /cgn2_6/prodata/1/pubpaa/US07_NEW_PUB.pep.*
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18: /cgn2_6/prodata/1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2805	99.4	548	10	US-09-838-469-28
2	2805	99.4	548	15	US-10-378-168-28
3	2684	95.1	548	10	US-09-838-469-27
4	2684	95.1	548	15	US-10-378-168-27
5	2335.5	82.7	548	10	US-09-838-469-29
6	2335.5	82.7	548	15	US-10-378-168-29
7	1965.5	69.6	547	10	US-09-838-469-32
8	1965.5	69.6	547	15	US-10-378-168-32
9	1956.5	69.3	975	12	US-10-072-013-329
10	1951.5	69.1	895	14	US-10-348-074-47
11	1945.5	68.9	550	10	US-09-838-469-31
12	1945.5	68.9	550	14	US-10-348-074-34
13	1945.5	68.9	550	15	US-10-378-168-31
14	1945.5	68.9	1172	14	US-10-122-706-4
15	1890	67.0	548	10	US-09-838-469-30

16	1890	67.0	548	15	US-10-378-168-30
17	1831	64.9	552	10	US-09-838-469-33
18	1831	64.9	552	15	US-10-378-168-33
19	1708.5	60.5	544	10	US-09-838-469-24
20	1708.5	60.5	544	10	US-09-813-279B-2
21	1708.5	60.5	544	10	US-09-813-279B-4
22	1708.5	60.5	544	15	US-10-378-168-24
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27	1704.5	60.4	544	15	US-10-378-168-44
28	1704.5	60.4	544	16	US-10-855-878-3
29	1674.5	59.3	546	10	US-09-838-469-23
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80	729	25.8	569	12	US-10-424-599-237811
81	725.5	25.7	575	14	US-10-361-460-3
82	724.5	25.7	540	9	US-09-796-256A-8
83	722.5	25.6	544	14	US-10-174-693-349
84	720	25.5	544	15	US-10-369-493-6433
85	715	25.3	570	14	US-10-184-385-4
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87	712	25.2	539	16	US-10-437-963-133457
88	710	25.2	524	14	US-10-156-761-11398

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89 704 24.9 559 14 US-10-289-757-90 Sequence 90, Appl
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 91 699 24.8 559 14 US-10-289-757-91 Sequence 91, Appl
 92 698.5 24.7 555 16 US-10-437-963-196091 Sequence 196091,
 93 697.5 24.7 575 14 US-10-174-693-407 Sequence 407, App
 94 697 24.7 601 12 US-10-425-114-69253 Sequence 69253, A
 95 696 24.7 555 14 US-10-361-460-2 Sequence 2, Appl
 96 691.5 24.5 571 16 US-10-437-963-102985 Sequence 102985,
 97 687 24.3 551 14 US-10-174-693-348 Sequence 348, App
 98 681.5 24.1 565 16 US-10-437-963-140091 Sequence 140091,
 99 675 23.9 539 14 US-10-289-757-89 Sequence 89, Appl
 100 671 23.8 555 16 US-10-437-963-166762 Sequence 166762,

ALIGNMENTS

RESULT 1

US-09-838-469-28
 ; Sequence 28, Application US/09838469
 ; Publication No. US20030068801A1

; GENERAL INFORMATION:

; APPLICANT: Wood, Keith V.

; APPLICANT: Hall, Mary P.

; APPLICANT: Promega Corporation

; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

; FILE REFERENCE: 341.006US1

; CURRENT APPLICATION NUMBER: US/09/838,469

; PRIOR FILING DATE: 2001-04-19

; PRIOR APPLICATION NUMBER: US/09/156,946

; PRIOR FILING DATE: 1998-09-18

; NUMBER OF SEQ ID NOS: 41

; SOFTWARE: PatentIn Ver. 2.0

; SEQ ID NO 28

; LENGTH: 548

; TYPE: PRT

; ORGANISM: Beetle

US-09-838-469-28

Query Match 99.4%; Score 2805; DB 10; Length 548;
 Best Local Similarity 99.3%; Pred. No. 2.4e-263;
 Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY 1 MENNDENIVYGEPEYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYAYEYLE 60
 DB 1 MENNDENIVYGEPEYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYAYEYLE 60
 QY 61 KSCCLGEALKNYGLVWDGRIALCSECEBEFFIPVLAGLFTGVGVAFTNEIYTLRELHVSL 120
 DB 61 KSCCLGEALKNYGLVWDGRIALCSECEBEFFIPVLAGLFTGVGVAFTNEIYTLRELHVSL 120
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 DB 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVYRGVQSMDFIKKNTPOGFKG 180
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 DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENLVTRFSHARDPYIGNOVSPGTAIL 240
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 DB 541 LKKPVAKM 548
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 US-10-378-168-28
 ; Sequence 28, Application US/10378168
 ; Publication No. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,168
 ; CURRENT FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 28
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola lateralis
 US-10-378-168-28

Query Match 99.4%; Score 2805; DB 15; Length 548;
 Best Local Similarity 99.3%; Pred. No. 2.4e-263;
 Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

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 DB 1 MENNDENIVYGEPEYPIEESAGALRYKMDRYAKLGAIAFTNALTGVDTYAYEYLE 60
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 DB 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVYRGVQSMDFIKKNTPOGFKG 180
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 DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENLVTRFSHARDPYIGNOVSPGTAIL 240
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 DB 241 TVVPFHGFGMFTTGLVLTGCGFRIWMLTKFDEBTFKLTQDYKCSSVILVPTLFAILNRS 300
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 DB 301 ELLDKYDLSNLVETASGAPLSKEIGAVARRNLPVGRQVGLTETTSAILIITPEGDDK 360
 QY 361 PGASGKVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVYDNPPEATREIIDEEGWL 420
 DB 361 PGASGKVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMLMKGVYDNPPEATREIIDEEGWL 420
 QY 421 HTGDIGYDEKHHFIVDRKLSLIKKGQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

Db 421 HTGDIYDEEKHFFIVDRILSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
 QY 481 ELPAGVAVVLLKKGKSMTEKEMVQASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 Db 481 ELPAGVAVVLEKKGKSMTEKEMVQASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKXPVAKM 548
 Db 541 LKXPVAKM 548
 RESULT 3
 US-09-838-469-27
 ; Sequence 27, Application US/09838469
 ; Publication No. US20030068801A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: THE MOST STABLE LUCIFERASES AND METHODS OF PRODUCTION
 ; FILE REFERENCE: 341.006US1
 ; CURRENT APPLICATION NUMBER: US/09/838,469
 ; CURRENT FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 27
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Beetle
 US-09-838-469-27

Query Match 95.1%; Score 2684; DB 10; Length 548;
 Best Local Similarity 93.4%; Pred. No. 1.4e-251;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;
 QY 1 MENMENDENIYGPFPPIEESGAGALQKYMRYAKLGAIAFTNAITGVDTYVAEYLE 60
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 Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNTNEYTLRELHSL 120
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 Db 121 GISKPTIVFSSKKGLDKVITVQKTVAITKTIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
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 Db 181 SSFKTVEVNRKEQVALIMNNSGSGTGLPKGVOLTHENLVTRFSEARDPIYGNQVSPGTAVL 240
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 Db 241 TVVPFHGFGMFTTGLYLCGFRVVMVLTKEDETFKTLQDYKCTSVILVPTLFAILNRS 300
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 Db 301 ELLNKYDLSNLVEIASGAPLSKEVGEAVARRNLPGVRQGYGLTETTSAILITPEGDDK 360
 QY 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKMGVVDNPEATREIIDEGWL 420
 Db 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKMGVVDNPEATREIIDEGWL 420
 QY 421 HTGDIYDEEKHFFIVDRILSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
 Db 421 HTGDIYDEEKHFFIVDRILSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
 QY 481 ELPAGVAVVLLKKGKSMTEKEMVQASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 Db 481 ELPAGVAVVLESGKNTKEVMDIVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKXPVAKM 548
 Db 541 LKXPVAKM 548
 RESULT 4
 US-10-378-168-27
 ; Sequence 27, Application US/10378168
 ; Publication No. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,168
 ; CURRENT FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 27
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola cruciata
 US-10-378-168-27

Query Match 95.1%; Score 2684; DB 15; Length 548;
 Best Local Similarity 93.4%; Pred. No. 1.4e-251;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;
 QY 1 MENMENDENIYGPFPPIEESGAGALQKYMRYAKLGAIAFTNAITGVDTYVAEYLE 60
 Db 1 MENMENDENIYGPFPPIEESGAGALQKYMRYAKLGAIAFTNAITGVDTYVAEYLE 60
 QY 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNTNEYTLRELHSL 120
 Db 61 KSCCLGKALQNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPNTNEYTLRELHSL 120
 QY 121 GISKPTIVFSSKKGLDKVITVQKTVAITKTIVILDSKVDYRGYQSMDFIKKNTPPGFG 180
 Db 121 GISKPTIVFSSKKGLDKVITVQKTVAITKTIVILDSKVDYRGYQCLDTFKRNTPPGFOA 180
 QY 181 SSFKTVEVNRKEQVALIMNNSGSGTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
 Db 181 SSFKTVEVNRKEQVALIMNNSGSGTGLPKGVOLTHENLVTRFSEARDPIYGNQVSPGTAVL 240
 QY 241 TVVPFHGFGMFTTGLYLCGFRVVMVLTKEDETFKTLQDYKCTSVILVPTLFAILNRS 300
 Db 241 TVVPFHGFGMFTTGLYLCGFRVVMVLTKEDETFKTLQDYKCTSVILVPTLFAILNRS 300
 QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPGVRQGYGLTETTSAILITPEGDDK 360
 Db 301 ELLNKYDLSNLVEIASGAPLSKEVGEAVARRNLPGVRQGYGLTETTSAILITPEGDDK 360
 QY 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKMGVVDNPEATREIIDEGWL 420
 Db 361 PGASGKVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMKMGVVDNPEATREIIDEGWL 420
 QY 421 HTGDIYDEEKHFFIVDRILSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
 Db 421 HTGDIYDEEKHFFIVDRILSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
 QY 481 ELPAGVAVVLLKKGKSMTEKEMVQASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 Db 481 ELPAGVAVVLESGKNTKEVMDIVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKPVAKM 548
 Db 541 LKPVAKM 548

RESULT 5

US-09-838-469-29
 ; Sequence 29, Application US/09838469
 ; Publication NO. US20030068601A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; APPLICANT: Promega Corporation
 ; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
 ; FILE REFERENCE: 341.006US1
 ; CURRENT APPLICATION NUMBER: US/09/838,469
 ; PRIOR FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: PatentIn Ver. 2.0
 ; SEQ ID NO 29
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Beetle
 US-09-838-469-29

Query Match 82.7%; Score 2335.5; DB 10; Length 548;
 Best Local Similarity 81.7%; Pred. No. 1.1e-217;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEFYPIEESGAGLAKYMDRYAKLGAIAFTNALTGVDVYAEYLEKSC 63
 Db 3 MEKENVYVGLPYPPIEESGAGLQHKYHXYAKLGAIAFNSALTGVDISYQYFDITC 62

QY 64 CLGELKKNYGLVVDGRITALCSECEEFPIVLAGLFGVGVAPTNIEYTLRELHSLGIS 123
 Db 63 RLAEAMKNGFKMKEBEHIALCSECEEFPIVLAGLFGVGVAPTNIEYTLRELHSLGIS 122

QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGQSDMNIKNTPOGFKGSSP 183
 Db 123 OPTIVFSSRKGKLPKLVQKTVTCIKKIVILDSKNVFGHDCMETFIKKHVELGFQPSFP 182

QY 184 KTEVEV-NRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSGHARDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLMNSSGSTGLPKGVRIITHEGAVTRFSGHAKDPIYGNQVSPGTAILTV 242

QY 243 VPFHGFGMFTTLCGLTCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLPAIINRSEL 302
 Db 243 VPFHGFGMFTTLCGLTCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLPAIINRSEL 302

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362

QY 363 ASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGMKGYVDNPEATREIIDEGLWHT 422
 Db 363 ASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGMKGYVDNPEATREIIDEGLWHT 422

QY 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482

QY 483 PGAVVVLKKGKSMTEKEVMDYVASOYVSNAKLGGVRFVDEVPKGLTGKIDKATREILK 542
 Db 483 PGAVVVEKGTMTKEIIVDVYNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542

QY 543 KPQAKM 548
 Db 543 KPQAKM 548

RESULT 6

US-10-378-168-29
 ; Sequence 29, Application US/10378168
 ; Publication NO. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,168
 ; CURRENT FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 29
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola mingrelia
 US-10-378-168-29

Query Match 82.7%; Score 2335.5; DB 15; Length 548;
 Best Local Similarity 81.7%; Pred. No. 1.1e-217;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEFYPIEESGAGLAKYMDRYAKLGAIAFTNALTGVDVYAEYLEKSC 63
 Db 3 MEKENVYVGLPYPPIEESGAGLQHKYHXYAKLGAIAFNSALTGVDISYQYFDITC 62

QY 64 CLGELKKNYGLVVDGRITALCSECEEFPIVLAGLFGVGVAPTNIEYTLRELHSLGIS 123
 Db 63 RLAEAMKNGFKMKEBEHIALCSECEEFPIVLAGLFGVGVAPTNIEYTLRELHSLGIS 122

QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGQSDMNIKNTPOGFKGSSP 183
 Db 123 OPTIVFSSRKGKLPKLVQKTVTCIKKIVILDSKNVFGHDCMETFIKKHVELGFQPSFP 182

QY 184 KTEVEV-NRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSGHARDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLMNSSGSTGLPKGVRIITHEGAVTRFSGHAKDPIYGNQVSPGTAILTV 242

QY 243 VPFHGFGMFTTLCGLTCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLPAIINRSEL 302
 Db 243 VPFHGFGMFTTLCGLTCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLPAIINRSEL 302

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362

QY 363 ASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGMKGYVDNPEATREIIDEGLWHT 422
 Db 363 ASGKVVPLFKAKVIDLDTKTLGNRRGEVCVKGMKGYVDNPEATREIIDEGLWHT 422

QY 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 423 GDIGYDEEHFFIVDLKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482

QY 483 PGAVVVLKKGKSMTEKEVMDYVASOYVSNAKLGGVRFVDEVPKGLTGKIDKATREILK 542
 Db 483 PGAVVVEKGTMTKEIIVDVYNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542

QY 543 KPQAKM 548
 Db 543 KPQAKM 548

RESULT 7

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US-09-838-469-32
; Sequence 32, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-32

Query Match      69.6%; Score 1965.5; DB 10; Length 547;
Best Local Similarity 69.0%; Pred. No. 1.1e-181;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY      4 MENDENIVGPEPFYPIEESGAGALRYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db      1 MEDAKNIMHGPAFFYPLEDGTAGEQLHKAMKRYAQPVGPIAFTDAHAENVITYSEYFEMA 60

QY      63 CCLGEALKNYGLVVDGRIALCSENCBEPFIPVLAGLFIGVGVAPTNEIYTLRELHSLGI 122
Db      61 CRLAETMKRYGLGLQHIIAVCSNSLOFFMPVCGALFIGVASTNDIYNERELYNLSI 120

QY      123 SKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSDMNFIKKNTPOGFKGSS 182
Db      121 SQPTIVSCSKALOKILGVQKKLPILQKIVILDSREDYMGKQSMYSFIESHLPAGEFYD 180

QY      183 FKTVEVRNKEQVALIMNSSGSTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAILTV 242
Db      181 YIPDSFDRATATALIMNSSGSTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAILTV 240

QY      243 VPFHHGFGMFTTGLYTCGFRIVMLTKFDEBETLKLQDYKCSSVILVPTLFAILNRSEL 302
Db      241 IPFHGFGMFTTGLYTCGFRIVMLTKFDEBETLKLQDYKCSSVILVPTLFAILNRSEL 300

QY      303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 362
Db      301 VDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 360

QY      363 ASGVVPLPKAVYDIDTKTLGNRGEVCKGPMKGYVNDPEATREIIDEGLHHT 422
Db      361 ACQKVVFFSAKIVDLDTGKTLGNRGEVCKGPMKGYVNDPEATREIIDEGLHHT 420

QY      423 GDIGYVDEEKHFFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
Db      421 GDIAIYDKDGHFFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 480

QY      483 PGAVVVLKKGKSMTEKVMYDVASQVSNKRLRGGRVDFVDEPKGLTGKIDGKAIREIL 541
Db      481 PAAVVVLEEGKTMTEQEVMDYVAGQVTSKRLRGGRVDFVDEPKGLTGKIDGKAIREIL 539

RESULT 8
US-10-378-168-32
; Sequence 32, Application US/10378168
; Publication No. US2003023240A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168

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; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Lampyris noctiluca
US-10-378-168-32

Query Match      69.6%; Score 1965.5; DB 15; Length 547;
Best Local Similarity 69.0%; Pred. No. 1.1e-181;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY      4 MENDENIVGPEPFYPIEESGAGALRYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db      1 MEDAKNIMHGPAFFYPLEDGTAGEQLHKAMKRYAQPVGPIAFTDAHAENVITYSEYFEMA 60

QY      63 CCLGEALKNYGLVVDGRIALCSENCBEPFIPVLAGLFIGVGVAPTNEIYTLRELHSLGI 122
Db      61 CRLAETMKRYGLGLQHIIAVCSNSLOFFMPVCGALFIGVASTNDIYNERELYNLSI 120

QY      123 SKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSDMNFIKKNTPOGFKGSS 182
Db      121 SQPTIVSCSKALOKILGVQKKLPILQKIVILDSREDYMGKQSMYSFIESHLPAGEFYD 180

QY      183 FKTVEVRNKEQVALIMNSSGSTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAILTV 242
Db      181 YIPDSFDRATATALIMNSSGSTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAILTV 240

QY      243 VPFHHGFGMFTTGLYTCGFRIVMLTKFDEBETLKLQDYKCSSVILVPTLFAILNRSEL 302
Db      241 IPFHGFGMFTTGLYTCGFRIVMLTKFDEBETLKLQDYKCSSVILVPTLFAILNRSEL 300

QY      303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 362
Db      301 VDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSAILIITPEGDDKPG 360

QY      363 ASGVVPLPKAVYDIDTKTLGNRGEVCKGPMKGYVNDPEATREIIDEGLHHT 422
Db      361 ACQKVVFFSAKIVDLDTGKTLGNRGEVCKGPMKGYVNDPEATREIIDEGLHHT 420

QY      423 GDIGYVDEEKHFFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
Db      421 GDIAIYDKDGHFFIVDRILKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 480

QY      483 PGAVVVLKKGKSMTEKVMYDVASQVSNKRLRGGRVDFVDEPKGLTGKIDGKAIREIL 541
Db      481 PAAVVVLEEGKTMTEQEVMDYVAGQVTSKRLRGGRVDFVDEPKGLTGKIDGKAIREIL 539

RESULT 9
US-10-072-012-329
; Sequence 329, Application US/10072012
; Publication No. US20040033493A1
; GENERAL INFORMATION:
; APPLICANT: Tchernev, Velizar
; APPLICANT: Spytek, Kimberly
; APPLICANT: Zernhusen, Bryan
; APPLICANT: Patturajan, Meera
; APPLICANT: Shimkets, Richard
; APPLICANT: Li, Li
; APPLICANT: Gangolli, Esha
; APPLICANT: Padigaru, Muralidhara
; APPLICANT: Anderson, David W.
; APPLICANT: Rastelli, Luca

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; APPLICANT: Miller, Charles E.
; APPLICANT: Gerlach, Valerie
; APPLICANT: Taupier Jr, Raymond J.
; APPLICANT: Gusev, Vladimir Y.
; APPLICANT: Coleman, Steven D.
; APPLICANT: Wolenc, Adam R.
; APPLICANT: Pena, Carol E. A.
; APPLICANT: Furtak, Katarzyna
; APPLICANT: Grosse, William M.
; APPLICANT: Alsobrook II, John P.
; APPLICANT: Lepley, Denise M.
; APPLICANT: Rieger, Daniel K.
; APPLICANT: Burgess, Catherine E.
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-258
; CURRENT APPLICATION NUMBER: US/10/072,012
; PRIOR FILING DATE: 2002-01-31
; PRIOR APPLICATION NUMBER: 60/265,102
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: 60/265,514
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,517
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,412
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,395
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/266,406
; PRIOR FILING DATE: 2001-02-02
; PRIOR APPLICATION NUMBER: 60/266,767
; PRIOR FILING DATE: 2001-02-05
; PRIOR APPLICATION NUMBER: 60/267,057
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/266,975
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/267,459
; PRIOR FILING DATE: 2001-02-08
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 1391
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 329
; LENGTH: 975
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Construct
US-10-072-012-329

Query Match          69.3%; Score 1956.5; DB 12; Length 975;
Best Local Similarity 68.6%; Pred. No. 2.1e-180;
Matches 371; Conservative 71; Mismatches 95; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEPPYIEEGSAGAKRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 426 MEDAKNIKKGPAPPYPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVDITVAEYFEMS 485

QY 63 CCLGEALKNYGLVVDGRIALCSECEFFIPVLGAGFIGVGAPTNIEYTLRELHVSILG 122
Db 486 VRLAEAMKRYGLNTNHRIVVCSSENSQOFFMPVLGALFIGVAVAPANDIYNRELNSMGI 545

QY 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKYDVRGYQSMDFIKKNTPOGFKGS 182
Db 546 SQPTVVFVSKKGLKILNVQKLPILQIIIMDSKTDYQGFQSMYFTVTSHPGNEYD 605

QY 183 FKTVENVRKEQVALIMNNSGSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILT 242
Db 606 FVPESFDRDKTIALIMNNSGSGTGLPKGVLPKHTACVRFSHARDPIFGNQIIPDTAILS 665

QY 243 VPFHHGFMETTLIGYLTGCGFRIYVLMKFDDETFKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 666 VPFHHGFMETTLIGYLTGCGFRIYVLMYRFEELFLRSIQDYKQSALLVPTLSPFAKSTL 725

; APPLICANT: Miller, Charles E.
; APPLICANT: Gerlach, Valerie
; APPLICANT: Taupier Jr, Raymond J.
; APPLICANT: Gusev, Vladimir Y.
; APPLICANT: Coleman, Steven D.
; APPLICANT: Wolenc, Adam R.
; APPLICANT: Pena, Carol E. A.
; APPLICANT: Furtak, Katarzyna
; APPLICANT: Grosse, William M.
; APPLICANT: Alsobrook II, John P.
; APPLICANT: Lepley, Denise M.
; APPLICANT: Rieger, Daniel K.
; APPLICANT: Burgess, Catherine E.
; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
; FILE REFERENCE: 21402-258
; CURRENT APPLICATION NUMBER: US/10/072,012
; PRIOR FILING DATE: 2002-01-31
; PRIOR APPLICATION NUMBER: 60/265,102
; PRIOR FILING DATE: 2001-01-30
; PRIOR APPLICATION NUMBER: 60/265,514
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,517
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,412
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/265,395
; PRIOR FILING DATE: 2001-01-31
; PRIOR APPLICATION NUMBER: 60/266,406
; PRIOR FILING DATE: 2001-02-02
; PRIOR APPLICATION NUMBER: 60/266,767
; PRIOR FILING DATE: 2001-02-05
; PRIOR APPLICATION NUMBER: 60/267,057
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/266,975
; PRIOR FILING DATE: 2001-02-07
; PRIOR APPLICATION NUMBER: 60/267,459
; PRIOR FILING DATE: 2001-02-08
; Remaining Prior Application data removed - See File Wrapper or PALM.
; NUMBER OF SEQ ID NOS: 1391
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 329
; LENGTH: 975
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
; OTHER INFORMATION: Construct
US-10-072-012-329

Query Match          69.3%; Score 1956.5; DB 12; Length 975;
Best Local Similarity 68.6%; Pred. No. 2.1e-180;
Matches 371; Conservative 71; Mismatches 95; Indels 1; Gaps 1;

QY 4 MENDENIYGPPEPPYIEEGSAGAKRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 426 MEDAKNIKKGPAPPYPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVDITVAEYFEMS 485

QY 63 CCLGEALKNYGLVVDGRIALCSECEFFIPVLGAGFIGVGAPTNIEYTLRELHVSILG 122
Db 486 VRLAEAMKRYGLNTNHRIVVCSSENSQOFFMPVLGALFIGVAVAPANDIYNRELNSMGI 545

QY 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKYDVRGYQSMDFIKKNTPOGFKGS 182
Db 546 SQPTVVFVSKKGLKILNVQKLPILQIIIMDSKTDYQGFQSMYFTVTSHPGNEYD 605

QY 183 FKTVENVRKEQVALIMNNSGSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILT 242
Db 606 FVPESFDRDKTIALIMNNSGSGTGLPKGVLPKHTACVRFSHARDPIFGNQIIPDTAILS 665

QY 243 VPFHHGFMETTLIGYLTGCGFRIYVLMKFDDETFKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 666 VPFHHGFMETTLIGYLTGCGFRIYVLMYRFEELFLRSIQDYKQSALLVPTLSPFAKSTL 725

; APPLICANT: Morphotek Inc.
; APPLICANT: Kline, J. Bradford
; APPLICANT: Nicolaides, Nicholas C.
; APPLICANT: Sasse, Philip M.
; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
; FILE REFERENCE: MG0003 US (MOR-0140)
; CURRENT APPLICATION NUMBER: US/10/348,074
; PRIOR FILING DATE: 2003-01-17
; PRIOR APPLICATION NUMBER: 60/349,565
; PRIOR FILING DATE: 2002-01-18
; NUMBER OF SEQ ID NOS: 47
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 47
; LENGTH: 895
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Chimera: Luc from Photinus pyralis; HYG from Escherichia coli
US-10-348-074-47

Query Match          69.1%; Score 1951.5; DB 14; Length 895;
Best Local Similarity 68.3%; Pred. No. 5.6e-180;
Matches 370; Conservative 75; Mismatches 96; Indels 1; Gaps 1;

QY 3 NNDENIYGPPEPPYIEEGSAGAKRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61
Db 345 NMEDAKNIKKGPAPPYPLEDGTAGEQLHKMKRYALVPGTIAFTDAHIEVNITVAEYFEM 404

QY 62 SCCLGEALKNYGLVVDGRIALCSECEFFIPVLGAGFIGVGAPTNIEYTLRELHVSILG 121
Db 405 SVRLAEAMKRYGLNTNHRIVVCSSENSQOFFMPVLGALFIGVAVAPANDIYNRELNSMN 464

QY 122 ISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKYDVRGYQSMDFIKKNTPOGFKGS 181
Db 465 ISQPTVVFVSKKGLKILNVQKLPILQIIIMDSKTDYQGFQSMYFTVTSHPGNEY 524

QY 182 SKTVENVRKEQVALIMNNSGSGTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILT 241
Db 525 DFVPSFDRDKTIALIMNNSGSGTGLPKGVLPKHTACVRFSHARDPIFGNQIIPDTAILS 584

QY 242 VPFHHGFMETTLIGYLTGCGFRIYVLMKFDDETFKTLQDYKCSSVILVPTLFAILNRSE 301
Db 585 VPFHHGFMETTLIGYLTGCGFRIYVLMYRFEELFLRSIQDYKQSALLVPTLSPFAKST 644

QY 302 LDKYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILITPEGDDKPG 361

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Db 645 LIDKYDLSNLHEIASGAPLSKEVGAARFHLPGIRQGYGLTETTSAILITPBGDDXP 704
 QY 362 GASGKVVPLFKAKVIDLDTKTLGNRRGECVCKGPMKMGVYDNPETREIIDEGLMH 421
 Db 705 GAVGKVVPEAKVVDLTGKTLGVNQRGELCVRGPMKMGVYNNPEATNALIDKGMH 764
 QY 422 TGDIGYDEKHFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 481
 Db 765 SGDIAYWDEHFFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 824
 QY 482 LPGAUVVLKKGSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRIL 541
 Db 825 LPAUVVLHGHKMTKEIYDVYASQVTTAKKLRGGVVFVDEVPKGLTGKIDGKAIRIL 884
 QY 542 KK 543
 Db 885 IK 886

RESULT 11
 US-09-838-469-31
 ; Sequence 31, Application US/09838469
 ; Publication No. US20030068801A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith P.
 ; APPLICANT: Promega Corporation
 ; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
 ; FILE REFERENCE: 341.006US1
 ; CURRENT APPLICATION NUMBER: US/09/838,469
 ; PRIOR FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: Patent in Ver. 2.0
 ; SEQ ID NO 31
 ; LENGTH: 550
 ; TYPE: PRT
 ; ORGANISM: Beetle
 US-09-838-469-31

Query Match 68.9%; Score 1945.5; DB 10; Length 550;
 Best Local Similarity 68.2%; Pred. No. 9.5e-180;
 Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
 QY 4 MENDENIVYGPPEFYPIEBSGAGQRLKYMRYAKL-GALAFNALTGVDYTYAEYLEKS 62
 Db 1 MEDAKNIKKGPAPFYPLEDGTAGEQLHKAMRYALVPGTIAFTDAHIEVNITYAEYFMS 60
 QY 63 CCLGEALKNYGLVVDGRIALCSNCEBEFFIPVLAGLFIGVGVAPTNEIYTLRELHSLGI 122
 Db 61 VLAEAMKRYGLNTNHRIVVCSNSLQFFMFLGALFIGVAVAPANDIYNERELNSMNI 120
 QY 123 SKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
 Db 121 SOPTVVFVSKGLQKILNVQKLPFIQKIIIMSKDYQGFQSMYTFVTSHPGNEVD 180
 QY 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTNENLVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 181 FVPSFDRDKTIALIMNSSGSTGLPKGVLPHTACVRFSHARDPIFNQIIPDTAILSV 240
 QY 243 VPFHFGMFTTGLYLTGCRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRSEL 302
 Db 241 VPFHFGMFTTGLYLTGCRIVMLYRFEELFRLSLQDYKQSALLVPTLFFFAKSTL 300
 QY 303 LDKYDLSNLHEIASGAPLSKEVGAARFHLPGIRQGYGLTETTSAILITPBGDDKPG 362
 Db 362 ASGKVVPLFKAKVIDLDTKTLGNRRGECVCKGPMKMGVYDNPETREIIDEGLMH 421
 QY 422 TGDIGYDEKHFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 481
 Db 482 LPGAUVVLKKGSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRIL 541

QY 423 GDICYDEKHFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 482
 Db 421 GDIAWDEDEHFFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 480
 QY 483 PGAVVVLKKGSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRIL 542
 Db 481 PAAUVVLHGHKMTKEIYDVYASQVTTAKKLRGGVVFVDEVPKGLTGKIDGKAIRIL 540
 QY 543 K 543
 Db 541 K 541

RESULT 12
 US-10-348-074-34
 ; Sequence 34, Application US/10348074
 ; Publication No. US20030176386A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Morphotek Inc.
 ; APPLICANT: Kline, J. Bradford
 ; APPLICANT: Grasso, Luigi
 ; APPLICANT: Nicolaides, Nicholas C.
 ; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
 ; FILE REFERENCE: MG003 US (MOR-0140)
 ; CURRENT APPLICATION NUMBER: US/10/348,074
 ; CURRENT FILING DATE: 2003-01-17
 ; PRIOR APPLICATION NUMBER: 60/349,565
 ; PRIOR FILING DATE: 2002-01-18
 ; NUMBER OF SEQ ID NOS: 47
 ; SOFTWARE: Patent in version 3.2
 ; SEQ ID NO 34
 ; LENGTH: 550
 ; TYPE: PRT
 ; ORGANISM: Photinus pyralis
 US-10-348-074-34

Query Match 68.9%; Score 1945.5; DB 14; Length 550;
 Best Local Similarity 68.2%; Pred. No. 9.5e-180;
 Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
 QY 4 MENDENIVYGPPEFYPIEBSGAGQRLKYMRYAKL-GALAFNALTGVDYTYAEYLEKS 62
 Db 1 MEDAKNIKKGPAPFYPLEDGTAGEQLHKAMRYALVPGTIAFTDAHIEVNITYAEYFMS 60
 QY 63 CCLGEALKNYGLVVDGRIALCSNCEBEFFIPVLAGLFIGVGVAPTNEIYTLRELHSLGI 122
 Db 61 VLAEAMKRYGLNTNHRIVVCSNSLQFFMFLGALFIGVAVAPANDIYNERELNSMNI 120
 QY 123 SKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
 Db 121 SOPTVVFVSKGLQKILNVQKLPFIQKIIIMSKDYQGFQSMYTFVTSHPGNEVD 180
 QY 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTNENLVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 181 FVPSFDRDKTIALIMNSSGSTGLPKGVLPHTACVRFSHARDPIFNQIIPDTAILSV 240
 QY 243 VPFHFGMFTTGLYLTGCRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRSEL 302
 Db 241 VPFHFGMFTTGLYLTGCRIVMLYRFEELFRLSLQDYKQSALLVPTLFFFAKSTL 300
 QY 303 LDKYDLSNLHEIASGAPLSKEVGAARFHLPGIRQGYGLTETTSAILITPBGDDKPG 362
 Db 362 ASGKVVPLFKAKVIDLDTKTLGNRRGECVCKGPMKMGVYDNPETREIIDEGLMH 421
 QY 422 TGDIGYDEKHFIVDRILKSLIKYGYQVPAELESVLLQHPNIFDAGVAGVDPPIAGE 481
 Db 482 LPGAUVVLKKGSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRIL 541

Db 649 K 649

RESULT 15

US-09-838-469-30

Sequence 30, Application US/09838469

Publication No. US20030068801A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

APPLICANT: Promega Corporation

TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

FILE REFERENCE: 341.006US1

CURRENT APPLICATION NUMBER: US/09/838,469

CURRENT FILING DATE: 2001-04-19

PRIOR APPLICATION NUMBER: US/09/156,946

PRIOR FILING DATE: 1998-09-18

NUMBER OF SEQ ID NOS: 41

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 30

LENGTH: 548

TYPE: PRT

ORGANISM: Beetle

US-09-838-469-30

Query Match 67.0%; Score 1890; DB 10; Length 548;

Best Local Similarity 67.8%; Pred. No. 2.4e-174;

Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENVVGPPEPPYPIEGSAGAQLRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61

Db 1 MEDDSKHIMGHRHSILWEDGTAGEQLHKAMKRYAVPGTIAFTDAHAENVITYSEYFEM 60

QY 62 SCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLGLFICGVGAPNEIYTLRELIVHSLG 121

Db 61 SCRLAETMKRYGLGLQHIIAVCSSETSLQPFMPVCGALFICGVGAPNDIYNERELYNLSF 120

QY 122 ISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVYRGYQSMDFIKONTPOGFKGS 181

Db 121 ISOPTIVFCSKRALQKILGVQKLPVIOKIVILDSREDYMGKQSMYFIESHLPAFNEV 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIT 241

Db 181 DYPDPSDFRETATALLIMNSSGSTGLPKGVDLTHMNVCFRSHCRDPVFGNQIIPDTAII 240

QY 242 VPFPHGVFQMTTLGYLTGCFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRSE 301

Db 241 VIPFHHVFQMTTLGYLTGCFRIVMLYRFEELFLSLQDYKQSALLVPTLSPFAKST 300

QY 302 LLDKYDLNLNVEIASGAPLSKSGEAVARRFNLPGVRQGYGLTETTSAILIITPEGDDKP 361

Db 301 LVDKYDLNLNHEIASGAPLAKEVGEAVAKRFLPGIRQGYGLTETTSAILIITPEGDDKP 360

QY 362 GASGVVPLFKAVIDLTKTKTGNRRGVCVKGMKMGVYDNPENATREIIDEGWLH 421

Db 361 GACGVVPFFTAIVDLDTGKTLGVNQRGELCVKGMKMGVYNNPEATNALIDKDGWLH 420

QY 422 TGDIGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 481

Db 421 SGDIAYYDKDGHFFIVDRKSLIKYGYQVPPAELESILLQHPFIFDAGVAGIPDPAGE 480

QY 482 LPGAVVVLKKGKSMTEKEVMYDVASQVSNAKRLGGVRFVDEVPKGLTGKIDSKAIRIL 541

Db 481 LPAAVVLEEGRWMTQEVMYDVAGQVTSKRLGGVKFVDEVPKGLTGKIDSKIRKIREIL 540

RESULT 16

US-10-378-168-30

Sequence 30, Application US/10378168

Publication No. US20030232404A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

TITLE OF INVENTION: Thermostable luciferases and methods of

FILE REFERENCE: 341.012US1

CURRENT APPLICATION NUMBER: US/10/378,168

CURRENT FILING DATE: 2003-02-28

PRIOR APPLICATION NUMBER: US/09/396,154

PRIOR FILING DATE: 1999-09-15

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946

PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494

PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379

PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19

NUMBER OF SEQ ID NOS: 93

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 30

LENGTH: 548

TYPE: PRT

ORGANISM: Pyrococelia miyako

US-10-378-168-30

Query Match 67.0%; Score 1890; DB 15; Length 548;

Best Local Similarity 67.8%; Pred. No. 2.4e-174;

Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENVVGPPEPPYPIEGSAGAQLRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61

Db 1 MEDDSKHIMGHRHSILWEDGTAGEQLHKAMKRYAVPGTIAFTDAHAENVITYSEYFEM 60

QY 62 SCCLGEALKNYGLVVDGRIALCSENCEEFFIPVLGLFICGVGAPNEIYTLRELIVHSLG 121

Db 61 SCRLAETMKRYGLGLQHIIAVCSSETSLQPFMPVCGALFICGVGAPNDIYNERELYNLSF 120

QY 122 ISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVYRGYQSMDFIKONTPOGFKGS 181

Db 121 ISOPTIVFCSKRALQKILGVQKLPVIOKIVILDSREDYMGKQSMYFIESHLPAFNEV 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIT 241

Db 181 DYPDPSDFRETATALLIMNSSGSTGLPKGVDLTHMNVCFRSHCRDPVFGNQIIPDTAII 240

QY 242 VPFPHGVFQMTTLGYLTGCFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRSE 301

Db 241 VIPFHHVFQMTTLGYLTGCFRIVMLYRFEELFLSLQDYKQSALLVPTLSPFAKST 300

QY 302 LLDKYDLNLNVEIASGAPLSKSGEAVARRFNLPGVRQGYGLTETTSAILIITPEGDDKP 361

Db 301 LVDKYDLNLNHEIASGAPLAKEVGEAVAKRFLPGIRQGYGLTETTSAILIITPEGDDKP 360

QY 362 GASGVVPLFKAVIDLTKTKTGNRRGVCVKGMKMGVYDNPENATREIIDEGWLH 421

Db 361 GACGVVPFFTAIVDLDTGKTLGVNQRGELCVKGMKMGVYNNPEATNALIDKDGWLH 420

QY 422 TGDIGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 481

Db 421 SGDIAYYDKDGHFFIVDRKSLIKYGYQVPPAELESILLQHPFIFDAGVAGIPDPAGE 480

QY 482 LPGAVVVLKKGKSMTEKEVMYDVASQVSNAKRLGGVRFVDEVPKGLTGKIDSKAIRIL 541

Db 481 LPAAVVLEEGRWMTQEVMYDVAGQVTSKRLGGVKFVDEVPKGLTGKIDSKIRKIREIL 540

RESULT 17

US-09-838-469-33

Sequence 33, Application US/09838469

Publication No. US20030068801A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

APPLICANT: Promega Corporation

TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

FILE REFERENCE: 341.006US1

; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PR
; ORGANISM: Beetle
US-09-838-469-33

Query Match 64.9%; Score 1831; DB 10; Length 552;
Best Local Similarity 62.7%; Pred. No. 1.3e-168;
Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;
QY 4 MENDENIVGPEPPYPIEBSAGALRYMDRYAKL-GAIAFTNALTCVDYTYAEYLEKS 62
DB 1 MSIENNILIGPPYPLEEETAGELHRAISRYAAVEGTLLAYTDVHTELEVYKEFLDVT 60
QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLGAGFIGVGVAPTNEIYTLRELHSLGI 122
DB 61 CRLAEMKNYGLGLOHTISVCSENCVQFFMPICAAALYGVVATPTNDIYNERELYNLSI 120
QY 123 SKPTIVSSKKGDLKVTIVQKTVTAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKGSS 182
DB 121 SQPTVFTSRNSLQKILGVQSRPLPIKKIILDKKDYLGYSQSMQFMPKHEVHPANFNVA 180
QY 183 FKTVEVRKEQVALIMNSSGSTGLPKGVQLTHENLVRFSHARDPIYGNQVSPGTAILTV 242
DB 181 FKPLSFD-LDRVACIMNSSGSTGLPKGVPIHRTIYRFSHCRDPVFGNQIIPDTILCA 239
QY 243 VPFHFGFMFTTLGYLTCGPRIVMLTFDEBETFLKTLQDYKCSVILVPLFLAILARSEL 302
DB 240 VPFHAFGTFTNLGYLICGFHVLMYRNEHLFLQTLQDYKCSALLVPTVLAFLAKNPL 299
QY 303 LDKYDLSNLVEIASGAPLSKEIGEAVARRENLPQVROGYGLTETTSAILITPEGGDKPG 362
DB 300 VDKYDLSNLVEIASGAPLSKEISEIAAKRFLPGIRQGYGLTETTCATVITAEGBFKLG 359
QY 363 ASGWVPLFKAKVIDLDTKTLGPNRGEVGVKGMKGVVDNPEATREIIDEEGMLHT 422
DB 360 AVGVVFPYSLKVLDTLNTGKLGNERGEICFKGPMIMKYINNPEATREIIDEEGWIHS 419
QY 423 GDIGYDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
DB 420 GDIGYFDEGHVYIVDRKLSLIKYGQVPPAELEALLQHPFIEDAGVAGVDPVAGDL 479
QY 483 PGAVVVLKKGSMTEKEVMDYVASQVSNARLGRGVFVDEVPKGLTGKIDGKAIREILK 542
DB 480 PGAVVVLKKGSMTEKEIYQVAGQVTSKRLGGVEFVKEVPGFTGKIDTRIKKILI 539
QY 543 K 543
DB 540 K 540

RESULT 18
US-10-378-168-33
; Sequence 33, Application US/10378168
; Publication No. US2003023240A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: Production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PR
; ORGANISM: Photuris pennsylvanica
US-10-378-168-33

Query Match 64.9%; Score 1831; DB 15; Length 552;
Best Local Similarity 62.7%; Pred. No. 1.3e-168;
Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;
QY 4 MENDENIVGPEPPYPIEBSAGALRYMDRYAKL-GAIAFTNALTCVDYTYAEYLEKS 62
DB 1 MSIENNILIGPPYPLEEETAGELHRAISRYAAVEGTLLAYTDVHTELEVYKEFLDVT 60
QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLGAGFIGVGVAPTNEIYTLRELHSLGI 122
DB 61 CRLAEMKNYGLGLOHTISVCSENCVQFFMPICAAALYGVVATPTNDIYNERELYNLSI 120
QY 123 SKPTIVSSKKGDLKVTIVQKTVTAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKGSS 182
DB 121 SQPTVFTSRNSLQKILGVQSRPLPIKKIILDKKDYLGYSQSMQFMPKHEVHPANFNVA 180
QY 183 FKTVEVRKEQVALIMNSSGSTGLPKGVQLTHENLVRFSHARDPIYGNQVSPGTAILTV 242
DB 181 FKPLSFD-LDRVACIMNSSGSTGLPKGVPIHRTIYRFSHCRDPVFGNQIIPDTILCA 239
QY 243 VPFHFGFMFTTLGYLTCGPRIVMLTFDEBETFLKTLQDYKCSVILVPLFLAILARSEL 302
DB 240 VPFHAFGTFTNLGYLICGFHVLMYRNEHLFLQTLQDYKCSALLVPTVLAFLAKNPL 299
QY 303 LDKYDLSNLVEIASGAPLSKEIGEAVARRENLPQVROGYGLTETTSAILITPEGGDKPG 362
DB 300 VDKYDLSNLVEIASGAPLSKEISEIAAKRFLPGIRQGYGLTETTCATVITAEGBFKLG 359
QY 363 ASGWVPLFKAKVIDLDTKTLGPNRGEVGVKGMKGVVDNPEATREIIDEEGMLHT 422
DB 360 AVGVVFPYSLKVLDTLNTGKLGNERGEICFKGPMIMKYINNPEATREIIDEEGWIHS 419
QY 423 GDIGYDEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
DB 420 GDIGYFDEGHVYIVDRKLSLIKYGQVPPAELEALLQHPFIEDAGVAGVDPVAGDL 479
QY 483 PGAVVVLKKGSMTEKEVMDYVASQVSNARLGRGVFVDEVPKGLTGKIDGKAIREILK 542
DB 480 PGAVVVLKKGSMTEKEIYQVAGQVTSKRLGGVEFVKEVPGFTGKIDTRIKKILI 539
QY 543 K 543
DB 540 K 540

RESULT 19
US-09-838-469-24
; Sequence 24, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of production
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0

```
; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-24

Query Match
  60.5%; Score 1708.5; DB 10; Length 544;
Best Local Similarity
  60.6%; Pred. No. 1e-156;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEBGSAQQLRKYMDRVAKL-GAIAFTNALTGVDVYAEVLEKSCCL 65
DB 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRADI PGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEBFFIPVLAGLFI GVGVAPTNEIYTLRELVHSLGISKP 125
DB 63 AESFKKYGLKQNDITIAVCSENGLOFFLPVIA SLYGIIVAPVNDKYIERELIHSLGIVKP 122

QY 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDRYGYQSMDFIKKNTPOGFGSSFKT 185
DB 123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNEDLGGYQCLNNFISQNSDSNLDVKKFKP 182

QY 186 VEYNRKEQVALIMNSSSGTGLPKGVQLTHEMLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
DB 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 242

QY 246 HHGFGMTTLGYLTCGPRIVMLTKFDBETFLKLDQYKCSSVLLVPTLFAILNRSELLDK 305
DB 243 HHGFGMTTLGYTCGFRVVLMTFEEKLFQSLQDYKVESTLLVPTLMAFLAKSALVEK 302

QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILITPEGDDKPGASG 365
DB 303 YDLSHLKXIASGGAPLSKEIGEMVKRFLNFRVQGYGLTETTSVAVLIITPKGDAKPGSG 362

QY 366 KVVPLFKAKVIDLTKTGLGNRRGEVCKGPMKGYVDNPEATREIIDEGWLHTGDI 425
DB 363 KIVPFHAKVVDPTTGKILGNPEGELYFKGPMIMKGYNNNEATKAIIDNDGWLRSGL 422

QY 426 GYVDEEKEHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPCA 485
DB 423 AYYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVYLKKGKSMTEKEMVDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILKK 543
DB 483 GVVVQTGYLNEQIVQDYVASQVSTAKWLRGGVKFLDEIPKSGTKIDRKVLQRMFEK 540

RESULT 20
US-09-813-279B-2
; Sequence 2, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; FILE REFERENCE: 10743/6
; CURRENT APPLICATION NUMBER: US/09/813,279B
; CURRENT FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: US60/269,526
; PRIOR FILING DATE: 2001-02-16
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-2

Query Match
  60.5%; Score 1708.5; DB 10; Length 544;
Best Local Similarity
  60.6%; Pred. No. 1e-156;
Matches 326; Conservative 84; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEBGSAQQLRKYMDRVAKL-GAIAFTNALTGVDVYAEVLEKSCCL 65
DB 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRADI PGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEBFFIPVLAGLFI GVGVAPTNEIYTLRELVHSLGISKP 125
DB 63 AESFKKYGLKQNDITIAVCSENGLOFFLPVIA SLYGIIVAPVNDKYIERELIHSLGIVKP 122

QY 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDRYGYQSMDFIKKNTPOGFGSSFKT 185
DB 123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNEDLGGYQCLNNFISQNSDSNLDVKKFKP 182

QY 186 VEYNRKEQVALIMNSSSGTGLPKGVQLTHEMLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
DB 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 242

QY 246 HHGFGMTTLGYLTCGPRIVMLTKFDBETFLKLDQYKCSSVLLVPTLFAILNRSELLDK 305
DB 243 HHGFGMTTLGYTCGFRVVLMTFEEKLFQSLQDYKVESTLLVPTLMAFLAKSALVEK 302

QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILITPEGDDKPGASG 365
DB 303 YDLSHLKXIASGGAPLSKEIGEMVKRFLNFRVQGYGLTETTSVAVLIITPKGDAKPGSG 362

QY 366 KVVPLFKAKVIDLTKTGLGNRRGEVCKGPMKGYVDNPEATREIIDEGWLHTGDI 425
DB 363 KIVPFHAKVVDPTTGKILGNPEGELYFKGPMIMKGYNNNEATKAIIDNDGWLRSGL 422

QY 426 GYVDEEKEHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPCA 485
DB 423 AYYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVYLKKGKSMTEKEMVDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILKK 543
DB 483 GVVVQTGYLNEQIVQDYVASQVSTAKWLRGGVKFLDEIPKSGTKIDRKVLQRMFEK 540

RESULT 21
US-09-813-279B-4
; Sequence 4, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; FILE REFERENCE: 10743/6
; CURRENT APPLICATION NUMBER: US/09/813,279B
; CURRENT FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: US60/269,526
; PRIOR FILING DATE: 2001-02-16
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patentin version 3.1
; SEQ ID NO 4
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-4

Query Match
  60.5%; Score 1708.5; DB 10; Length 544;
Best Local Similarity
  60.6%; Pred. No. 1e-156;
Matches 326; Conservative 84; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEBGSAQQLRKYMDRVAKL-GAIAFTNALTGVDVYAEVLEKSCCL 65
DB 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRADI PGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEBFFIPVLAGLFI GVGVAPTNEIYTLRELVHSLGISKP 125
DB 63 AESFKKYGLKQNDITIAVCSENGLOFFLPVIA SLYGIIVAPVNDKYIERELIHSLGIVKP 122

QY 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDRYGYQSMDFIKKNTPOGFGSSFKT 185
DB 123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNEDLGGYQCLNNFISQNSDSNLDVKKFKP 182

QY 186 VEYNRKEQVALIMNSSSGTGLPKGVQLTHEMLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
DB 183 YSFNRDDQVALIMFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTIVIPF 242

QY 246 HHGFGMTTLGYLTCGPRIVMLTKFDBETFLKLDQYKCSSVLLVPTLFAILNRSELLDK 305
DB 243 HHGFGMTTLGYTCGFRVVLMTFEEKLFQSLQDYKVESTLLVPTLMAFLAKSALVEK 302

QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILITPEGDDKPGASG 365
DB 303 YDLSHLKXIASGGAPLSKEIGEMVKRFLNFRVQGYGLTETTSVAVLIITPKGDAKPGSG 362

QY 366 KVVPLFKAKVIDLTKTGLGNRRGEVCKGPMKGYVDNPEATREIIDEGWLHTGDI 425
DB 363 KIVPFHAKVVDPTTGKILGNPEGELYFKGPMIMKGYNNNEATKAIIDNDGWLRSGL 422

QY 426 GYVDEEKEHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPCA 485
DB 423 AYYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVYLKKGKSMTEKEMVDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRILKK 543
DB 483 GVVVQTGYLNEQIVQDYVASQVSTAKWLRGGVKFLDEIPKSGTKIDRKVLQRMFEK 540
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Db 63 AESFKYGLKQNDTIAVCSENSLOFPLFIASLVGIIVAVNDKYIERELIHSGLGVKP 122
QY 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFGKSGSEKT 185
Db 123 RIVFCSKNTFOKVLNVKSLKSIETIIILDNEDLGGYQCLNNFISQNSDNLVDVKFKP 182
QY 186 VEVNRKEQVALIMNSSGSLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVAFIMFSSGTLGLPKGVMLTHKNIVARFSLAKOPTFGNAINPTAILTVIPF 242
QY 246 HHGFGMTTLGLTCGPRIVMLTKFDEBTEPLKTLQDYKCSSVILVPTLFAILNRSELLDK 305
Db 243 HHGFGMTTLGYFCGFRVLMHTFEKFLQSLQDYKVESTLLVPTLMAFLAKSALVEK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPVGRQGYGLTETTSAAITITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKRFLNFRVQGYGLTETTSAAVLTITPKGDAKPGSTG 362
QY 366 KVPFLFAKVIDLDTKTLGNRRGEVGVKPMKMGVVDNPEATREIIDEGWHLTGDI 425
Db 363 KIVPLHAKVVDPTTKILGNPEGEGLYFKGPMIMKGYNNNEATKAIIDNDGWLRSGL 422
QY 426 GYDEEKHEFFIVDLRLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYVNDGHHFYVLDRLKSLIKYGVQVPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVLLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVKFLDEIPKSGTGKIDRKLQMLEK 540

RESULT 22

US-10-378-168-24
; Sequence 24, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase

US-10-378-168-24

Query Match 60.5%; Score 1708.5; DB 15; Length 544;
Best Local Similarity 60.6%; Pred. No. 1e-156;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEFPYPIEEGSAGALRKYMDRVAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
Db 3 DKNILYGPFPYPLEDGTAGEQMFALSRVADIPGCCIALTNAHTKENVLYEELKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSNCEEFFIPVLAGLFIGVGAFTNEIYTLRELVHSLGISKP 125
Db 63 AESFKYGLKQNDTIAVCSENSLOFPLFIASLVGIIVAVNDKYIERELIHSGLGVKP 122

QY 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFGKSGSEKT 185
Db 123 RIVFCSKNTFOKVLNVKSLKSIETIIILDNEDLGGYQCLNNFISQNSDNLVDVKFKP 182
QY 186 VEVNRKEQVALIMNSSGSLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVAFIMFSSGTLGLPKGVMLTHKNIVARFSLAKOPTFGNAINPTAILTVIPF 242
QY 246 HHGFGMTTLGLTCGPRIVMLTKFDEBTEPLKTLQDYKCSSVILVPTLFAILNRSELLDK 305
Db 243 HHGFGMTTLGYFCGFRVLMHTFEKFLQSLQDYKVESTLLVPTLMAFLAKSALVEK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAVARFNLPVGRQGYGLTETTSAAITITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKRFLNFRVQGYGLTETTSAAVLTITPKGDAKPGSTG 362
QY 366 KVPFLFAKVIDLDTKTLGNRRGEVGVKPMKMGVVDNPEATREIIDEGWHLTGDI 425
Db 363 KIVPLHAKVVDPTTKILGNPEGEGLYFKGPMIMKGYNNNEATKAIIDNDGWLRSGL 422
QY 426 GYDEEKHEFFIVDLRLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYVNDGHHFYVLDRLKSLIKYGVQVPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVLLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVKFLDEIPKSGTGKIDRKLQMLEK 540

RESULT 23

US-10-378-168-45
; Sequence 45, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 45
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase

US-10-378-168-45

Query Match 60.5%; Score 1708.5; DB 15; Length 544;
Best Local Similarity 60.6%; Pred. No. 1e-156;
Matches 326; Conservative 84; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEFPYPIEEGSAGALRKYMDRVAKL-GAIAFTNALTGVDTYVAEYLEKSCCL 65
Db 3 DKNILYGPFPYPLEDGTAGEQMFALSRVADIPGCCIALTNAHTKENVLYEELKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSNCEEFFIPVLAGLFIGVGAFTNEIYTLRELVHSLGISKP 125
Db 63 AESFKYGLKQNDTIAVCSENSLOFPLFIASLVGIIVAVNDKYIERELIHSGLGVKP 122
QY 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFGKSGSEKT 185

Db 123 RIVFCSKNTFQKVLNVKSKLSYETIIILDNEDLGQYQCLNFIQNSDSNLDVKKFKP 182
QY 186 VEVNRKEQVALINSSGSLPKGVOLTHENLVTRSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVASINFSFGTTLGPKGVMTHKNIVARFSIAKDPFGNAINPTTSAITLVVPF 242
QY 246 HHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDQYKCSSVILVPTLFAILNRSSELLDK 305
Db 243 HHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDQYKCSSVILVPTLFAILNRSSELLDK 302
QY 306 YDLSNLVEIASGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSIIITPEGDDKPGSTG 362
QY 366 KVVPLFKAVIDLDTKTTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWLHTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGNPEGLYFKGPMIMKGYNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFPIVDRLSKSLIKYQVPPABESVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVVLKKGKSMTEKEMVDMYASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRESILKK 543
Db 483 GVVQGTQKYLNEQIVQDYVASQVSTAKWLRGVGFLEIPKSGTGKIDRKVLQRMFEK 540

RESULT 24
US-10-655-878-2
; Sequence 2, Application US/10655878
; Publication No. US20040101922A1
; GENERAL INFORMATION:
; APPLICANT: Somborg, Richard
; APPLICANT: Goueli, Said A.
; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
; FILE REFERENCE: 03-772
; CURRENT APPLICATION NUMBER: US/10/655,878
; PRIOR FILING DATE: 2003-09-05
; PRIOR APPLICATION NUMBER: US 60/408,662
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-655-878-2

Query Match 60.5%; Score 1708.5; DB 16; Length 544;
Best Local Similarity 60.6%; Pred. No. 1e-156;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEPPFYPIEGSAGAJRKWMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCL 65
Db 3 DKNILYGEPPFYPLEDGTAGEOMFDALSRYADIPGCIALTNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNVGLVDDGRIALCSENCEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGISKP 125
Db 63 AESFKYGLKQNDTIIVCSENGQFFLPVIAASLYLGIIVAPVNDKYIERELIHSIGIVP 122
QY 126 TIVFSSKKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOQFGKSSPKT 185
Db 123 RIVFCSKNTFQKVLNVKSKLSYETIIILDNEDLGQYQCLNFIQNSDSNLDVKKFKP 182
QY 186 VEVNRKEQVALINSSGSLPKGVOLTHENLVTRSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVASINFSFGTTLGPKGVMTHKNIVARFSIAKDPFGNAINPTTSAITLVVPF 242
QY 246 HHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDQYKCSSVILVPTLFAILNRSSELLDK 305
Db 243 HHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDQYKCSSVILVPTLFAILNRSSELLDK 302
QY 306 YDLSNLVEIASGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSIIITPEGDDKPGSTG 362
QY 366 KVVPLFKAVIDLDTKTTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWLHTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGNPEGLYFKGPMIMKGYNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFPIVDRLSKSLIKYQVPPABESVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSIIITPEGDDKPGSTG 362
QY 366 KVVPLFKAVIDLDTKTTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWLHTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGNPEGLYFKGPMIMKGYNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFPIVDRLSKSLIKYQVPPABESVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVVLKKGKSMTEKEMVDMYASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRESILKK 543
Db 483 GVVQGTQKYLNEQIVQDYVASQVSTAKWLRGVGFLEIPKSGTGKIDRKVLQRMFEK 540

RESULT 25
US-10-655-878-4
; Sequence 4, Application US/10655878
; Publication No. US20040101922A1
; GENERAL INFORMATION:
; APPLICANT: Somborg, Richard
; APPLICANT: Goueli, Said A.
; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
; FILE REFERENCE: 03-772
; CURRENT APPLICATION NUMBER: US/10/655,878
; PRIOR FILING DATE: 2003-09-05
; PRIOR APPLICATION NUMBER: US 60/408,662
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 4
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-655-878-4

Query Match 60.5%; Score 1708.5; DB 16; Length 544;
Best Local Similarity 60.6%; Pred. No. 1e-156;
Matches 326; Conservative 84; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEPPFYPIEGSAGAJRKWMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCL 65
Db 3 DKNILYGEPPFYPLEDGTAGEOMFDALSRYADIPGCIALTNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNVGLVDDGRIALCSENCEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGISKP 125
Db 63 AESFKYGLKQNDTIIVCSENGQFFLPVIAASLYLGIIVAPVNDKYIERELIHSIGIVP 122
QY 126 TIVFSSKKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOQFGKSSPKT 185
Db 123 RIVFCSKNTFQKVLNVKSKLSYETIIILDNEDLGQYQCLNFIQNSDSNLDVKKFKP 182
QY 186 VEVNRKEQVALINSSGSLPKGVOLTHENLVTRSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVASINFSFGTTLGPKGVMTHKNIVARFSIAKDPFGNAINPTTSAITLVVPF 242
QY 246 HHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDQYKCSSVILVPTLFAILNRSSELLDK 305
Db 243 HHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTDQYKCSSVILVPTLFAILNRSSELLDK 302
QY 306 YDLSNLVEIASGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSIIITPEGDDKPGSTG 362
QY 366 KVVPLFKAVIDLDTKTTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWLHTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGNPEGLYFKGPMIMKGYNNEEATKAIIDNDGWLRSGL 422
QY 426 GYDDEKHFPIVDRLSKSLIKYQVPPABESVLLOHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYYDNDGHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

Qy 486 VVLLKKGKSMTEKEVMDYVASQVSNKRLRGGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFLDEIPKSGTGKIDRKVLRQMLEK 540

Search completed: July 22, 2004, 08:33:26
Job time : 44 secs

OM protein - protein search, using sw model

Run on: July 22, 2004, 08:02:44 ; Search time 15.6667 Seconds
(without alignments)
1805.811 Million cell updates/sec

Title: US-09-581-241A-4
Perfect score: 2823
Sequence: 1 MENMENDEINVGPFFPYI.....TGKIDKAIREILKKPVARM 548

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 100 summaries

Database : Issued Patents AA:*
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2: /cgn2_6/prodata/2/iaa/5B COMB.pep.*
3: /cgn2_6/prodata/2/iaa/6A COMB.pep.*
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5: /cgn2_6/prodata/2/iaa/PCUTUS COMB.pep.*
6: /cgn2_6/prodata/2/iaa/backfiles1.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query Match	Score	Length	ID	Description
1	2819	99.9	548	2	US-08-460-934-2
2	2819	99.9	548	2	US-08-782-118-2
3	2817	99.8	548	3	US-09-111-752-14
4	2814	99.7	548	1	US-07-903-047-8
5	2814	99.7	548	3	US-09-380-061B-16
6	2814	99.7	636	2	US-08-460-934-9
7	2814	99.7	636	2	US-08-782-118-9
8	2805	99.4	548	4	US-08-487-183A-14
9	2805	99.4	548	4	US-09-396-154-28
10	2801	99.2	568	2	US-08-460-934-6
11	2801	99.2	568	2	US-08-782-118-6
12	2793	98.9	548	4	US-09-602-628-10
13	2703	95.7	552	3	US-09-111-752-10
14	2684	95.1	548	1	US-07-675-211-2
15	2684	95.1	548	1	US-07-903-047-2
16	2684	95.1	548	1	US-08-076-042-2
17	2684	95.1	548	3	US-09-380-061B-14
18	2684	95.1	548	4	US-08-396-154-27
19	2675	94.8	548	4	US-08-487-183A-12
20	2588	91.7	552	3	US-09-111-752-5
21	2394	84.8	552	3	US-09-111-752-5
22	2335.5	82.7	548	3	US-09-380-061B-18
23	2335.5	82.7	548	4	US-08-487-183A-16
24	2335.5	82.7	548	4	US-09-396-154-29
25	1965.5	69.6	547	3	US-09-380-061B-20
26	1965.5	69.6	547	4	US-09-396-154-32
27	1956.5	69.3	550	1	US-08-354-240A-4

28	1956.5	69.3	550	4	US-09-602-628-8	Sequence 8, Appli
29	1956.5	69.3	550	4	US-09-577-424-2	Sequence 2, Appli
30	1950.5	69.1	550	4	US-03-602-628-4	Sequence 4, Appli
31	1947.5	69.0	550	1	US-08-354-240A-6	Sequence 6, Appli
32	1945.5	68.9	549	1	US-08-354-240A-2	Sequence 2, Appli
33	1945.5	68.9	550	3	US-08-867-352-23	Sequence 23, Appli
34	1945.5	68.9	550	3	US-09-380-061B-21	Sequence 21, Appli
35	1945.5	68.9	550	4	US-09-602-628-2	Sequence 2, Appli
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40	1944.5	68.9	550	3	US-08-718-425-5	Sequence 5, Appli
41	1942.5	68.8	550	3	US-08-875-277A-4	Sequence 4, Appli
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45	1934.5	68.5	550	4	US-09-602-628-6	Sequence 6, Appli
46	1930.5	68.4	550	4	US-08-487-183A-10	Sequence 10, Appli
47	1905.5	67.5	561	2	US-08-474-169-8	Sequence 8, Appli
48	1890	67.0	548	4	US-09-396-154-30	Sequence 30, Appli
49	1831	64.9	552	1	US-08-231-729B-6	Sequence 6, Appli
50	1831	64.9	552	4	US-09-396-154-33	Sequence 33, Appli
51	1708.5	60.5	544	4	US-09-396-154-24	Sequence 24, Appli
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53	1704.5	60.4	544	4	US-09-396-154-44	Sequence 44, Appli
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55	1669.5	59.1	544	4	US-09-396-154-19	Sequence 19, Appli
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57	1645.5	58.3	544	4	US-09-396-154-18	Sequence 18, Appli
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59	1640.5	58.1	544	4	US-09-396-154-15	Sequence 15, Appli
60	1640.5	58.1	544	4	US-09-396-154-21	Sequence 21, Appli
61	1637.5	58.0	544	4	US-09-396-154-17	Sequence 17, Appli
62	1636.5	58.0	544	4	US-09-396-154-14	Sequence 14, Appli
63	1636.5	58.0	545	4	US-09-396-154-25	Sequence 25, Appli
64	1631.5	57.8	544	4	US-09-396-154-16	Sequence 16, Appli
65	1628.5	57.7	545	4	US-09-396-154-37	Sequence 37, Appli
66	1383	49.0	546	4	US-09-396-154-34	Sequence 34, Appli
67	1365	48.4	542	4	US-09-396-154-47	Sequence 47, Appli
68	1365	48.4	543	4	US-08-487-183A-4	Sequence 4, Appli
69	1365	48.4	543	4	US-08-487-183A-6	Sequence 6, Appli
70	1365	48.4	543	4	US-09-396-154-36	Sequence 36, Appli
71	1361	48.2	543	4	US-08-487-183A-8	Sequence 8, Appli
72	1354	48.0	542	4	US-09-396-154-26	Sequence 26, Appli
73	1354	48.0	543	4	US-08-487-183A-2	Sequence 2, Appli
74	1354	48.0	543	4	US-09-396-154-35	Sequence 35, Appli
75	734.5	26.0	535	4	US-08-969-046-2	Sequence 2, Appli
76	724.5	25.7	540	3	US-08-991-677-8	Sequence 8, Appli
77	722.5	25.6	544	4	US-09-615-192A-349	Sequence 349, App
78	715	25.3	570	4	US-08-969-046-4	Sequence 4, Appli
79	687	24.3	551	4	US-09-615-192A-348	Sequence 348, App
80	585	20.7	578	3	US-08-981-215-1	Sequence 1, Appli
81	551	19.5	566	4	US-09-253-991A-17972	Sequence 17972, A
82	546	19.3	584	4	US-09-489-039A-14137	Sequence 14137, A
83	539	19.1	568	4	US-09-328-352-5460	Sequence 5460, Ap
84	539	19.1	562	4	US-09-252-991A-17971	Sequence 17971, A
85	492.5	17.4	589	4	US-09-328-352-6901	Sequence 6901, Ap
86	476	16.9	180	4	US-09-615-192A-281	Sequence 281, App
87	473	16.8	582	4	US-09-543-681A-4556	Sequence 4556, Ap
88	429	15.2	601	4	US-09-252-991A-31225	Sequence 31225, A
89	426	15.1	543	4	US-09-134-001C-4423	Sequence 4423, Ap
90	418	14.8	548	4	US-09-543-681A-6631	Sequence 6631, Ap
91	405	14.3	561	4	US-09-252-991A-20392	Sequence 20392, A
92	405	14.3	562	4	US-09-489-039A-9564	Sequence 9564, Ap
93	389	13.8	523	4	US-09-134-000C-6177	Sequence 6177, Ap
94	354.5	12.6	523	4	US-09-252-991A-20324	Sequence 20324, A
95	339	12.0	649	4	US-09-418-963-2	Sequence 2, Appli
96	333	11.8	548	4	US-09-328-352-7909	Sequence 7909, Ap
97	325	11.5	119	4	US-09-615-192A-282	Sequence 282, App
98	324.5	11.5	488	4	US-08-311-731A-283	Sequence 283, App
99	317.5	11.2	555	4	US-09-252-991A-20604	Sequence 20604, A
100	312	11.1	582	4	US-09-489-039A-7976	Sequence 7976, Ap

ALIGNMENTS

RESULT 1
US-08-460-934-2
; Sequence 2, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis
US-08-460-934-2
Query Match 99.98; Score 2819; DB 2; Length 548;
Best Local Similarity 99.88; Pred. No. 1.1e-285;
Matches 547; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 MENMENDINIVGPEPPYPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
Db 1 MENMENDINIVGPEPPYPIEESGAGLQKRYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
Qy 61 KSCCLGALKKNVGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVPATNEIYTLRELVHSL 120

Db 61 KSCCLGALKKNVGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVPATNEIYTLRELVHSL 120
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Db 121 GISKPTIVFSSKKGLDKVITVQKVTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
Qy 181 SSFKTVEVNRKEQVALINWSSGSLGPKGVOLTHENLVTRFESHARDPIYGNQVSPGTAIL 240
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Qy 241 TVVPEHHGFGMFTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db 241 TVVPEHHGFGMFTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRCGYGLTETTSALITPEGGDK 360
Db 301 ELLDKYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRCGYGLTETTSALITPEGGDK 360
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Db 361 PGASGKVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLAKGYVDNPEATREIIDEGWL 420
Qy 421 HTGDIYYDEEKHPFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDIYYDEEKHPFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Qy 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 2

US-08-782-118-2
; Sequence 2, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/782,118
; FILING DATE: 13-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/460,934
; FILING DATE: 05-JUN-1995
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:

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; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESS: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC Compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORGANISM: Luciola lateralis
; ORGANISM: Luciola lateralis
US-08-782-118-2

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Query Match      99.8%; Score 2819; DB 2; Length 548;
Best Local Similarity 99.8%; Pred. No. 1.1e-285;
Matches 547; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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DB 1 MENMENDENIVYGPPEFYPIEESGAGAKLRKYMRYAKLGAFTNALTGVDTYVAEYLE 60
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DB 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLAGLFGVGVAPTNEIYTLRELHLSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
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DB 181 SSFKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
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DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
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DB 301 ELLDKYDLSNLVETIASGAPLSKEIGEAARRFNLPVGRQGYGLTETTSATIIIPGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVDNPEATREIIDEGWL 420
DB 361 PGASGVVPLFKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVDNPEATREIIDEGWL 420
QY 421 HTGDIYGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
DB 421 HTGDIYGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480

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RESULT 3
US-09-111-752-14
; Sequence 14, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO

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; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESS: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC Compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORGANISM: Luciola lateralis
; ORGANISM: Luciola lateralis
US-09-111-752-14

Query Match      99.8%; Score 2817; DB 3; Length 548;
Best Local Similarity 99.8%; Pred. No. 1.7e-285;
Matches 547; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

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DB 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLAGLFGVGVAPTNEIYTLRELHLSL 120
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DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
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DB 181 SSFKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
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DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVETIASGAPLSKEIGEAARRFNLPVGRQGYGLTETTSATIIIPGDDK 360
DB 301 ELLDKYDLSNLVETIASGAPLSKEIGEAARRFNLPVGRQGYGLTETTSATIIIPGDDK 360
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DB 361 PGASGVVPLFKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVDNPEATREIIDEGWL 420
QY 421 HTGDIYGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
DB 421 HTGDIYGYDEEKHFFIVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480

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QY 481 ELPAGVVLKKGKMTKEVNDYVASOVSNAKRLRGGRVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPAGVVLKKGKMTKEVNDYVASOVSNAKRLRGGRVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKPPVAKM 548
 DB 541 LKPPVAKM 548

RESULT 4
 US-07-903-047-8
 ; Sequence 8, Application US/07903047
 ; Patent No. 5229285
 ; GENERAL INFORMATION:
 ; APPLICANT: Kajiyama, Naoki
 ; APPLICANT: Nakano, Eiichi
 ; TITLE OF INVENTION: Thermostable Luciferase Of Firefly,
 ; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombi
 ; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
 ; TITLE OF INVENTION: Luciferase Of Firefly
 ; NUMBER OF SEQUENCES: 11
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Pennie & Edmonds
 ; STREET: 1155 Avenue of the Americas
 ; CITY: New York
 ; STATE: New York
 ; COUNTRY: U.S.A.
 ; ZIP: 10036-2711
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/07/903,047
 ; FILING DATE: 19920623
 ; CLASSIFICATION: 435
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Misrock, S. Leslie
 ; REGISTRATION NUMBER: 18,872
 ; REFERENCE/DOCKET NUMBER: 7005-048
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 212 790-9090
 ; TELEFAX: 212 869-8664/9741
 ; TELEX: 66141 PENNIE
 ; INFORMATION FOR SEQ ID NO: 8:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: AMINO ACID
 ; STRANDEDNESS: single
 ; TOPOLOGY: unknown
 ; MOLECULE TYPE: peptide
 ; US-07-903-047-8

Query Match 99.7%; Score 2814; DB 1; Length 548;
 Best Local Similarity 99.6%; Pred. No. 3.5e-285;
 Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEESAGQRLKRYMDRYAKLGAIAFTNALTGVDVYAEYLE 60
 DB 1 MENMENDENIVGPEPPYPIEESAGQRLKRYMDRYAKLGAIAFTNALTGVDVYAEYLE 60
 QY 61 KSCCLGEALXNYGLVVDGRIALSCNCEEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
 DB 61 KSCCLGEALXNYGLVVDGRIALSCNCEEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
 QY 121 GISKPTIVFSKGLDVIIVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKQTPQGFKG 180
 DB 121 GISKPTIVFSKGLDVIIVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKQTPQGFKG 180
 QY 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNQVSPGTAIL 240

DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
 QY 241 TVPPHHGFNGFTTGLYLTGCFRIWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
 DB 241 TVPPHHGFNGFTTGLYLTGCFRIWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
 QY 301 ELLDKYDLNLVEIASGAPLSKEIGSAVARFNLPGVRQGYGLTETTSALIIITPEGDDK 360
 DB 301 ELLDKYDLNLVEIASGAPLSKEIGSAVARFNLPGVRQGYGLTETTSALIIITPEGDDK 360
 QY 361 PGASGVVPLPKAKVIDLDTKKTIGPNRRGEVCVKGMPLMKGYVDNPEATREIIDESEGL 420
 DB 361 PGASGVVPLPKAKVIDLDTKKTIGPNRRGEVCVKGMPLMKGYVDNPEATREIIDESEGL 420
 QY 421 HTGDIGYDDESKHFFIVDRLSKLIKYGQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
 DB 421 HTGDIGYDDESKHFFIVDRLSKLIKYGQVPPAELESVLLQHPNIFDAGVAGVPDPIAG 480
 QY 481 ELPAGVVLKKGKMTKEVNDYVASOVSNAKRLRGGRVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPAGVVLKKGKMTKEVNDYVASOVSNAKRLRGGRVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKPPVAKM 548
 DB 541 LKPPVAKM 548

RESULT 5
 US-09-380-061B-16
 ; Sequence 16, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRRELL, DAVID JAMES
 ; APPLICANT: WHITE, PETER JOHN
 ; APPLICANT: LOWE, CHRISTOPHER ROBIN
 ; APPLICANT: MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHVE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA
 ; COUNTRY: U.S.A.
 ; ZIP: 22201-4714
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25 (EPO)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/380,061B
 ; FILING DATE: 25-Aug-1999
 ; CLASSIFICATION: <unknown>
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/GB98/01026
 ; FILING DATE: 7-APR-1998
 ; APPLICATION NUMBER: GB 9707468.8
 ; FILING DATE: 11-APR-1997
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SADOFF, B. J.
 ; REGISTRATION NUMBER: 36,663
 ; REFERENCE/DOCKET NUMBER: 124-725
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (703)816-4000
 ; TELEFAX: (703)816-4100
 ; INFORMATION FOR SEQ ID NO: 16:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 16:

US-09-380-061B-16

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Query Match          99.7%; Score 2814; DB 3; Length 548;
Best Local Similarity 99.8%; Pred. No. 3.5e-285;
Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
DB 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLE 60

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DB 61 KSCCLGEALKNYGLVVDGRIALCSECEEFFIPVLGAGLFIGVGAPTNBIYTLRELHSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180

QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240

QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300

QY 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDK 360

QY 361 PGASGKVVPLFKAKVIDLDTKTLGPNRGEVCVKGPMLMKGVDNPEATRIIDEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLGPNRGEVCVKGPMLMKGVDNPEATRIIDEGWL 420

QY 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

QY 481 ELPGAUVVLEKGSMTKEVMYVQSVNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAUVVLEKGSMTKEVMYVQSVNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKKPVAK 548
DB 541 LKKPVAK 548
```

RESULT 6

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US-08-460-934-9
Sequence 9, Application US/08460934
Patent No. 5814465
GENERAL INFORMATION:
APPLICANT: TATSUMI, HIROKI
APPLICANT: FUKUDA, SATOSHI
APPLICANT: KIRUCHI, MAMORU
APPLICANT: KOYAMA, YASUJI
TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
TITLE OF INVENTION: ANALYSIS METHOD
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MATIER & NEUSTADT,
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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SOFTWARE: Patentin Release #1.0, Version #1.30

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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/460.934
FILING DATE: 05-JUN-1995
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 193798/1994
FILING DATE: 27-JUL-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 54625/1995
FILING DATE: 14-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: JP 98857/1995
FILING DATE: 24-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-001-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 9:
SEQUENCE CHARACTERISTICS:
LENGTH: 636 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-460-934-9

Query Match          99.7%; Score 2814; DB 2; Length 636;
Best Local Similarity 99.8%; Pred. No. 4.6e-285;
Matches 546; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
DB 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLE 60

QY 61 KSCCLGEALKNYGLVVDGRIALCSECEEFFIPVLGAGLFIGVGAPTNBIYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEEFFIPVLGAGLFIGVGAPTNBIYTLRELHSL 120

QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180

QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240

QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300

QY 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSALIIITPEGDDK 360

QY 361 PGASGKVVPLFKAKVIDLDTKTLGPNRGEVCVKGPMLMKGVDNPEATRIIDEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLGPNRGEVCVKGPMLMKGVDNPEATRIIDEGWL 420

QY 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480

QY 481 ELPGAUVVLEKGSMTKEVMYVQSVNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAUVVLEKGSMTKEVMYVQSVNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKKPVAK 548
DB 541 LKKPVAK 548
```

```

RESULT 7
US-08-782-118-9
; Sequence 9, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, NAMORU
; APPLICANT: KOKAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P. C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/782,118
; FILING DATE: 13-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/460,934
; FILING DATE: 05-JUN-1995
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 9:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 636 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-782-118-9
Query Match 99.7%; Score 2814; DB 2; Length 636;
Best Local Similarity 99.8%; Pred. No. 4.6e-285;
Matches 546; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

Qy 1 MENNDENIVGPEPPYPTTEESAGNOLKRYMDRYAKLGAIAFTALGVDTYVAEYLE 60
Db 1 MENNDENIVGPEPPYPTTEESAGNOLKRYMDRYAKLGAIAFTALGVDTYVAEYLE 60
Qy 61 KSCCLGALKNYGLVVDGRIALSCENCEEFPFVLAGLFIGVGAFTNEIYTLRELVHSL 120
Db 61 KSCCLGALKNYGLVVDGRIALSCENCEEFPFVLAGLFIGVGAFTNEIYTLRELVHSL 120
Qy 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMNDNEIKNTPOGFKG 180
Db 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMNDNEIKNTPOGFKG 180

Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Qy 241 TVPFPFHGFGFTTGLYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db 241 TVPFPFHGFGFTTGLYLTGCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEITASGAPLSKEIGEAVARFNLPGVRQYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEITASGAPLSKEIGEAVARFNLPGVRQYGLTETTSAILIITPEGDDK 360
Qy 361 PGASGKVVPFLPKAVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
Db 361 PGASGKVVPFLPKAVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
Qy 421 HTGDIGYVDESKHFFIVDRLSKLIKYGQVPPAELESVLLQHPNIFDAGVGVDPDIAG 480
Db 421 HTGDIGYVDESKHFFIVDRLSKLIKYGQVPPAELESVLLQHPNIFDAGVGVDPDIAG 480
Qy 481 ELPGAIVVVLKKGSKMTEKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAIVVVLKKGSKMTEKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKKPVAK 547
Db 541 LKKPVAK 547

RESULT 8
US-08-487-183A-14
; Sequence 14, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P. O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Scanton, William J.
; REGISTRATION NUMBER: 31,136
; REFERENCE/DOCKET NUMBER: 19017/166
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (608)258-5035
; TELEFAX: (608)258-4258
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear

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MOLECULE TYPE: protein
US-08-487-183A-14

Query Match 99.4%; Score 2806; DB 4; Length 548;
Best Local Similarity 99.5%; Pred. No. 2.4e-284;
Matches 545; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY	1	MENMENDENIVYGPPEFYPIEESGAGALRYAKLMDRYAKLGAIAFTNALTGVDTYVAEYLE	60
DB	1	MENMENDENIVYGPPEFYPIEESGAGALRYAKLMDRYAKLGAIAFTNALTGVDTYVAEYLE	60
QY	61	KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNIEYTLRELHSL	120
DB	61	KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNIEYTLRELHSL	120
QY	121	GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG	180
DB	121	GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG	180
QY	181	SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAIL	240
DB	181	SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAIL	240
QY	241	TVPPFHGFGMTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS	300
DB	241	TVPPFHGFGMTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS	300
QY	301	ELLKDYDLSNLVEIASGGAPLSKEIGEAVARRNLPGRQGYGLTETTSIIITPEGDDK	360
DB	301	ELLKDYDLSNLVEIASGGAPLSKEIGEAVARRNLPGRQGYGLTETTSIIITPEGDDK	360
QY	361	PGASGKVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL	420
DB	361	PGASGKVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL	420
QY	421	HTGDIGYDEEKHFFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG	480
DB	421	HTGDIGYDEEKHFFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG	480
QY	481	ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI	540
DB	481	ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI	540
QY	541	LKKPVAKM 548	
DB	541	LKKPVAKM 548	

RESULT 9
US-09-396-154-28
; Sequence 28, Application US/09396154
; Patent No. 6602677
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/09/396,154
; EARLIER FILING DATE: 1999-09-15
; EARLIER APPLICATION NUMBER: US 09/156,946
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: PCT/US98/19494
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: US 60/059,379
; EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-09-396-154-28

Query Match 99.4%; Score 2805; DB 4; Length 548;
Best Local Similarity 99.3%; Pred. No. 3.1e-284;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

QY	1	MENMENDENIVYGPPEFYPIEESGAGALRYAKLMDRYAKLGAIAFTNALTGVDTYVAEYLE	60
DB	1	MENMENDENIVYGPPEFYPIEESGAGALRYAKLMDRYAKLGAIAFTNALTGVDTYVAEYLE	60
QY	61	KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNIEYTLRELHSL	120
DB	61	KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNIEYTLRELHSL	120
QY	121	GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG	180
DB	121	GISKPTIVFSSKGLDKVITVQKTVAITKTIIVILDSKVDYRGYQSMDFIKKNTPOGFKG	180
QY	181	SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAIL	240
DB	181	SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAIL	240
QY	241	TVPPFHGFGMTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS	300
DB	241	TVPPFHGFGMTTLGYLTGCFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS	300
QY	301	ELLKDYDLSNLVEIASGGAPLSKEIGEAVARRNLPGRQGYGLTETTSIIITPEGDDK	360
DB	301	ELLKDYDLSNLVEIASGGAPLSKEIGEAVARRNLPGRQGYGLTETTSIIITPEGDDK	360
QY	361	PGASGKVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL	420
DB	361	PGASGKVPLFKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL	420
QY	421	HTGDIGYDEEKHFFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG	480
DB	421	HTGDIGYDEEKHFFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG	480
QY	481	ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI	540
DB	481	ELPGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI	540
QY	541	LKKPVAKM 548	
DB	541	LKKPVAKM 548	

RESULT 10
US-08-460-934-6
; Sequence 6, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/08/460,934
; EARLIER FILING DATE: 1999-09-15
; EARLIER APPLICATION NUMBER: US 08/156,946
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: PCT/US98/19494
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: US 60/059,379
; EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30

;
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/460,934
 ; FILING DATE: 05-JUN-1995
 ; CLASSIFICATION: 435
 ;
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ;
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ;
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ;
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ;
 ; INFORMATION FOR SEQ ID NO: 6:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 568 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ;
 ; US-08-460-934-6

Query Match 99.2%; Score 2801; DB 2; Length 568;
 Best Local Similarity 99.5%; Pred. No. 8.6e-284;
 Matches 543; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 QY 3 NMENDENIVGPPFPPIEBSGAGALRYKMDYAKLGAIAFTNALTGVDTYVAEYLEKS 62
 DB 23 SLENDENIVGPPFPPIEBSGAGALRYKMDYAKLGAIAFTNALTGVDTYVAEYLEKS 82
 QY 63 CCLGEALKNVGLVVDGRIALCSENCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSLGI 122
 DB 83 CCLGEALKNVGLVVDGRIALCSENCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSLGI 142
 QY 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOQFGKSS 182
 DB 143 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOQFGKSS 202
 QY 183 FKTEVNRKEQVALINSSGSLGPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAITV 242
 DB 203 FKTEVNRKEQVALINSSGSLGPKGVOLTHENLVTRFSHARDPIYGNQVSPGTAITV 262
 QY 243 VPFHGFGMTTLGLYTCGFRIYMLTKFDBETFLKTDYKCSSVILVPTLFAILNRSEL 302
 DB 263 VPFHGFGMTTLGLYTCGFRIYMLTKFDBETFLKTDYKCSSVILVPTLFAILNRSEL 322
 QY 303 LDKYDLSNLVEIASGAPISKEIGAVARRFNLPGVRCQYGLTETTSALITPEGDDKPG 362
 DB 323 LDKYDLSNLVEIASGAPISKEIGAVARRFNLPGVRCQYGLTETTSALITPEGDDKPG 382
 QY 363 ASGWVPLFKAKVIDLDTTKTLGNRRGECVKGPMKGYVDNPEATREIIDEGWLHT 422
 DB 383 ASGWVPLFKAKVIDLDTTKTLGNRRGECVKGPMKGYVDNPEATREIIDEGWLHT 442
 QY 423 GDIGYDDEKHFFIVDLKSLIKYGYQVPPAELESVILLOHNI FDAGVAGVDPDIAGEL 482
 DB 443 GDIGYDDEKHFFIVDLKSLIKYGYQVPPAELESVILLOHNI FDAGVAGVDPDIAGEL 502
 QY 483 PGAVVLLKKGKSMTEKENVVDYASQVSNARLRGGVRFVDEVPKGLTGKIDGKAIKREILK 542
 DB 503 PGAVVLLKKGKSMTEKENVVDYASQVSNARLRGGVRFVDEVPKGLTGKIDGKAIKREILK 562
 QY 543 KPVAKM 548
 DB 563 KPVAKM 568

RESULT 11
 US-08-782-118-6
 ; Sequence 6, Application US/08782118
 ; Patent No. 5843746
 ;
 ; GENERAL INFORMATION:
 ; APPLICANT: TATSUMI, HIROKI
 ; APPLICANT: KIKUDA, SATOSHI
 ; APPLICANT: KIKUCHI, MAMORU
 ; APPLICANT: KOYAMA, YASUJI
 ; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
 ; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
 ; TITLE OF INVENTION: ANALYSIS METHOD
 ; NUMBER OF SEQUENCES: 14
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
 ; ADDRESSEE: P.C.
 ; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
 ; CITY: ARLINGTON
 ; STATE: VA
 ; COUNTRY: USA
 ; ZIP: 22202
 ;
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.30
 ;
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/782,118
 ; FILING DATE: 13-JAN-1997
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/460,934
 ; FILING DATE: 05-JUN-1995
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ;
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ;
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ;
 ; INFORMATION FOR SEQ ID NO: 6:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 568 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ;
 ; US-08-782-118-6

Query Match 99.2%; Score 2801; DB 2; Length 568;
 Best Local Similarity 99.5%; Pred. No. 8.6e-284;
 Matches 543; Conservative 3; Mismatches 0; Indels 0; Gaps 0;
 QY 3 NMENDENIVGPPFPPIEBSGAGALRYKMDYAKLGAIAFTNALTGVDTYVAEYLEKS 62
 DB 23 SLENDENIVGPPFPPIEBSGAGALRYKMDYAKLGAIAFTNALTGVDTYVAEYLEKS 82
 QY 63 CCLGEALKNVGLVVDGRIALCSENCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSLGI 122
 DB 83 CCLGEALKNVGLVVDGRIALCSENCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSLGI 142
 QY 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOQFGKSS 182
 DB 143 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOQFGKSS 202

QY 183 FKTVEVRKEQVALINSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 242
 DB 203 FKTVEVRKEQVALINSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 262
 QY 243 VPFHGFMTTGLYITCGFRIVMLTKFDEETFLKTLQDYKSSVILVPTLFAILNRSEL 302
 DB 263 VPFHGFMTTGLYITCGFRIVMLTKFDEETFLKTLQDYKSSVILVPTLFAILNRSEL 322
 QY 303 LQYDLSNLVEITASGAPLSKEIGAVARRNLPVROGYGLTETTSALITPEGDDK 362
 DB 323 LQYDLSNLVEITASGAPLSKEIGAVARRNLPVROGYGLTETTSALITPEGDDK 382
 QY 363 ASGKVVPFLFKAVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWLHT 422
 DB 383 ASGKVVPFLFKAVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWLHT 442
 QY 423 GDIGYDDEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGEL 482
 DB 443 GDIGYDDEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGEL 502
 QY 483 PGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
 DB 503 PGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREILK 562
 QY 543 KPVAKM 548
 DB 563 KPVAKM 568

RESULT 12
 US-09-602-628-10
 ; Sequence 10, Application US/09602628
 ; Patent No. 6495355
 ; GENERAL INFORMATION:
 ; APPLICANT: Eames, Brian
 ; APPLICANT: Contag, Christopher
 ; TITLE OF INVENTION: Red-Shifted Luciferase
 ; FILE REFERENCE: SUN-127
 ; CURRENT APPLICATION NUMBER: US/09/602,628
 ; CURRENT FILING DATE: 2000-06-21
 ; PRIOR APPLICATION NUMBER: 60/140,598
 ; PRIOR FILING DATE: 1999-06-22
 ; NUMBER OF SEQ ID NOS: 12
 ; SOFTWARE: FastSeq for Windows Version 4.0
 ; SEQ ID NO 10
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola lateralis
 US-09-602-628-10

Query Match 98.9%; Score 2793; DB 4; Length 548;
 Best Local Similarity 98.7%; Pred. No. 5.6e-283;
 Matches 541; Conservative 4; Mismatches 3; Indels 0; Gaps 0;
 QY 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
 DB 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
 QY 61 KSCCLGEALKNGLVVDGRIALCSECEFFIPVLAGLFIYGVAPTHIYTLRELHSL 120
 DB 61 KSCCLGEALKNGLVVDGRIALCSECEFFIPVLAGLFIYGVAPTHIYTLRELHSL 120
 QY 121 GISKPTIVFSSKKGLDKVITVQKTVTAITVILDSKVDYRGVQSMDFIKKNTTQGPFGK 180
 DB 121 GISKPTIVFSSKKGLDKVITVQKTVTAITVILDSKVDYRGVQSMDFIKKNTTQGPFGK 180
 QY 181 SSKPTVEVRKEQVALINSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 240
 DB 181 SSKPTVEVRKEQVALINSSGSTGLPKGVOLTHENLVTRFSHARDPIYGNVSPGTAITLV 240
 QY 241 TVVPFHGFMFTTGLYITCGFRIVMLTKFDEETFLKTLQDYKSSVILVPTLFAILNRSEL 300
 DB 241 TVVPFHGFMFTTGLYITCGFRIVMLTKFDEETFLKTLQDYKSSVILVPTLFAILNRSEL 300

QY 301 ELLDKYDLSNLVEITASGAPLSKEIGAVARRNLPVROGYGLTETTSALITPEGDDK 360
 DB 301 ELLDKYDLSNLVEITASGAPLSKEIGAVARRNLPVROGYGLTETTSALITPEGDDK 360
 QY 361 PGAGKVVPFLFKAVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
 DB 361 PGAGKVVPFLFKAVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
 QY 421 HTGDIGYDDEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAG 480
 DB 421 HTGDIGYDDEKHFFIVDRLSLKIYKGYQVPPAELESVLLQHPNIFDAGVAGVDDPIAG 480
 QY 481 ELPGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKPVAKM 548
 DB 541 LKPVAKM 548

RESULT 13
 US-09-111-752-10
 ; Sequence 10, Application US/09111752
 ; Patent No. 6074859
 ; GENERAL INFORMATION:
 ; APPLICANT: HIROKAWA, KOZO
 ; APPLICANT: KAJIYAMA, NAOKI
 ; APPLICANT: MURAKAMI, SEIJI
 ; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE BIOLUMINESCENT PROTEIN
 ; NUMBER OF SEQUENCES: 14
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: P.C.
 ; ADDRESS: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
 ; CITY: ARLINGTON
 ; STATE: VA
 ; COUNTRY: USA
 ; ZIP: 22202
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patentin Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/111.752
 ; FILING DATE: 08-JUL-1998
 ; CLASSIFICATION: 435
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-0009-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 10:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 552 amino acids
 ; TYPE: amino acid
 ; STRANDEDNESS: single
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: peptide
 ; ORIGINAL SOURCE:
 ; ORGANISM: Luciola lateralis, Photinus pyralis
 US-09-111-752-10

Query Match 95.7%; Score 2703; DB 3; Length 552;
 Best Local Similarity 96.3%; Pred. No. 1.5e-273;
 Matches 523; Conservative 10; Mismatches 10; Indels 0; Gaps 0;
 QY 1 MENMENDENIVGPEPFPIEGSAGALRYKMDRYAKLGAIAFTNALTGVDTYVAEYLE 60

Db 1 MENMENDENIYVGPFFPIEBSAGAKRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALSCENCEBFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
Db 61 KSCCLGEALKNYGLVVDGRIALSCENCEBFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGMPLMKGYVNDPEATREIIDEEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGMPLMKGYVNDPEATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTKIDKAIKREI 540
Db 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTKIDKAIKREI 540
QY 541 LKK 543
Db 541 LK 543

RESULT 14

US-07-675-211-2
; Sequence 2, Application US/07675211
; Patent No. 5219737
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
; TITLE OF INVENTION: LUCIFERASE GENES, NOVEL RECOMBINANT DNAs CONTAINING THE
; TITLE OF INVENTION: GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 AVENUE OF THE AMERICAS
; CITY: NEW YORK
; STATE: N.Y.
; COUNTRY: U.S.A.
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA: US/07/675,211
; APPLICATION NUMBER: US/07/675,211
; FILING DATE: 19910326
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: MISROCK, S. LESLIE
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-026-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-750-9090

; TELEFAX: 212-869-9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata
US-07-675-211-2
Query Match 95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-271; Mismatches 10; Indels 0; Gaps 0;
Matches 512; Conservative 26;
QY 1 MENMENDENIYVGPFFPIEBSAGAKRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
Db 1 MENMENDENIYVGPFFPIEBSAGAKRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALSCENCEBFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
Db 61 KSCCLGEALKNYGLVVDGRIALSCENCEBFFIPVLAGLFIQVGVAPTNEIYTLRELHVSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYTCGFRIVMLTKPDEBTFKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRENLPGVQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGMPLMKGYVNDPEATREIIDEEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGMPLMKGYVNDPEATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDEEKHFFIVDRILKSLIKYKGQVPAELESVILLOHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTKIDKAIKREI 540
Db 481 ELPGAVVVLKKGKSMTEKEVMDYVAVSQVSNAKELRGVRFVDEVPKGLTKIDKAIKREI 540
QY 541 LKPEVAKM 548
Db 541 LKPEVAKM 548

RESULT 15

US-07-903-047-2
; Sequence 2, Application US/07903047
; Patent No. 5229285
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: NAKANO, EIICHI
; TITLE OF INVENTION: Thermostable Luciferase Of Firefly.
; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombir
; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
; TITLE OF INVENTION: Luciferase Of Firefly
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York

STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/903,047
FILING DATE: 19920623
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 7005-048
TELEPHONE: 212 790-9090
TELEFAX: 212 869-8864/9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-07-903-047-2

Query Match 95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-271;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY	1	MENMENDENIVVGPPEFYPIEESAGAQRLKYMDRVAKLGAIAFTNALTGVDTYAEYLE	60
DB	1	MENMENDENIVVGPPEFYPIEESAGATQLKYMERYAKLGAIAFTNAVTVGVDSYAEYLE	60
QY	61	KSCCLGEALKNGLVVDGRICALSCENCEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL	120
DB	61	KSCCLGKALQNYGLVVDGRICALSCENCEFFIPVIAGLFIGVGVAPTNIEYTLRELVHSL	120
QY	121	GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG	180
DB	121	GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQCLDTFKRNTPPGQA	180
QY	181	SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL	240
DB	181	SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL	240
QY	241	TVVPFHGFGMFTTGLYLCGFRVVMLTKEDEETFLKTLQDYKCSSVILVPTLFAILNRS	300
DB	241	TVVPFHGFGMFTTGLYLCGFRVVMLTKEDEETFLKTLQDYKCTSVILVPTLFAILNKS	300

RESULT 16
US-08-076-042-2
Sequence 2, Application US/08076042
Patent No. 5330906
GENERAL INFORMATION:
APPLICANT: KAJIYAMA, NAOKI
APPLICANT: NAKANO, EIICHI
TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
LUCIFERASE GENES, NOVEL RECOMBINANT DNAS CONTAINING THE
GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
ADDRESSEE: PENNIE & EDMONDS
STREET: 1155 AVENUE OF THE AMERICAS
CITY: NEW YORK
STATE: N.Y.
COUNTRY: U.S.A
ZIP: 10036
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/076,042
FILING DATE: 15-JUN-1993
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/675,211
FILING DATE: 26-MAR-1991
NAME: 435
ATTORNEY/AGENT INFORMATION:
NAME: MISROCK, S. LESLIE
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 7005-026-999
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212-790-9090
TELEFAX: 212-869-9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: peptide
ORIGINAL SOURCE:
ORGANISM: Luciola cruciata
US-08-076-042-2

Query Match 95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 1.4e-271;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY	1	MENMENDENIVVGPPEFYPIEESAGAQRLKYMDRVAKLGAIAFTNALTGVDTYAEYLE	60
DB	1	MENMENDENIVVGPPEFYPIEESAGATQLKYMERYAKLGAIAFTNAVTVGVDSYAEYLE	60
QY	61	KSCCLGEALKNGLVVDGRICALSCENCEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL	120
DB	61	KSCCLGKALQNYGLVVDGRICALSCENCEFFIPVIAGLFIGVGVAPTNIEYTLRELVHSL	120
QY	121	GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKG	180
DB	121	GISKPTIVSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQCLDTFKRNTPPGQA	180
QY	181	SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL	240
DB	181	SSFKTVEVDRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL	240
QY	241	TVVPFHGFGMFTTGLYLCGFRVVMLTKEDEETFLKTLQDYKCSSVILVPTLFAILNRS	300
DB	241	TVVPFHGFGMFTTGLYLCGFRVVMLTKEDEETFLKTLQDYKCTSVILVPTLFAILNKS	300

QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGYGLTETTTSAIIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGYGLTETTTSAIIITPEGDDK 360
 QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVVDNPEATRIIIDEHGL 420
 DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVVDNPEATRIIIDEHGL 420
 QY 421 HTGDIGYDDEKHFIVDRLSLKYKGYQVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 DB 421 HTGDIGYDDEKHFIVDRLSLKYKGYQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
 QY 481 ELPGAVVLLKKGKSMTEKEVMDYVAVQVSNKRLRGVRFVDEVPKGLTKIDGKAIREI 540
 DB 481 ELPGAVVLLKKGKSMTEKEVMDYVAVQVSNKRLRGVRFVDEVPKGLTKIDGKAIREI 540
 QY 541 LKXPAVM 548
 DB 541 LKXPAVM 548

RESULT 17
 US-09-380-061B-14
 ; Sequence 14, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; LOWE, CHRISTOPHER ROBIN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHVE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA
 ; COUNTRY: U.S.A.
 ; ZIP: 22201-4714
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25 (EPO)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/380,061B
 ; FILING DATE: 25-Aug-1999
 ; CLASSIFICATION: <Unknown>
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/GB98/01026
 ; FILING DATE: 7-APR-1998
 ; APPLICATION NUMBER: GB 9707468.8
 ; FILING DATE: 11-APR-1997
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SADOFF, B. J.
 ; REGISTRATION NUMBER: 36,663
 ; REFERENCE/DOCKET NUMBER: 124-725
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (703)816-4000
 ; TELEFAX: (703)816-4100
 ; INFORMATION FOR SEQ ID NO: 14:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 14:
 US-09-380-061B-14

Query Match 95.1%; Score 2684; DB 3; Length 548;
 Best Local Similarity 93.4%; Pred. No. 1.4e-271;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGALQRLKYMRYAKLGAIAFTNALTGVDVYAEYLE 60
 DB 1 MENMENDENIVGPKPPYPIEBSAGTQLRKYMERYAKLGAIAFTNALTGVDVYAEYLE 60
 QY 61 KSCCLGKALQNYGLVVDGRIALCSNCEEEFFIPVLAGLFIGVGVAPTNIEYTLRELHSL 120
 DB 61 KSCCLGKALQNYGLVVDGRIALCSNCEEEFFIPVLAGLFIGVGVAPTNIEYTLRELHSL 120
 QY 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSMDNFFIKKNTPOQFGK 180
 DB 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSMDNFFIKKNTPOQFGK 180
 QY 181 SSFKTVENRKEQVALTMNSSGTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAVL 240
 DB 181 SSFKTVENRKEQVALTMNSSGTGLPKGVQLTHENVTRFSHARDPIYGNQVSPGTAVL 240
 QY 241 TVPFFHGFMTTGLYTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
 DB 241 TVPFFHGFMTTGLYTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
 QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGYGLTETTTSAIIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGAPLSKEIGAVARRNLPVGVQGYGLTETTTSAIIITPEGDDK 360
 QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVVDNPEATRIIIDEHGL 420
 DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVVDNPEATRIIIDEHGL 420
 QY 421 HTGDIGYDDEKHFIVDRLSLKYKGYQVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 DB 421 HTGDIGYDDEKHFIVDRLSLKYKGYQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
 QY 481 ELPGAVVLLKKGKSMTEKEVMDYVAVQVSNKRLRGVRFVDEVPKGLTKIDGKAIREI 540
 DB 481 ELPGAVVLLKKGKSMTEKEVMDYVAVQVSNKRLRGVRFVDEVPKGLTKIDGKAIREI 540
 QY 541 LKXPAVM 548
 DB 541 LKXPAVM 548

RESULT 18
 US-09-396-154-27
 ; Sequence 27, Application US/09396154
 ; Patent No. 6602677
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; TITLE OF INVENTION: production
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/09/396,154
 ; CURRENT FILING DATE: 1999-09-15
 ; EARLIER APPLICATION NUMBER: US 09/156,946
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: US 60/059,379
 ; EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 27
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola cruciata
 US-09-396-154-27

Query Match 95.1%; Score 2684; DB 4; Length 548;
 Best Local Similarity 93.4%; Pred. No. 1.4e-271;
 Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;
 QY 1 MENMENDENIVGPEPPYPIEBSAGALQRLKYMRYAKLGAIAFTNALTGVDVYAEYLE 60

Db 1 MENMENENIVGPKFFPIEBSAGTQLRKYERYAKLGATFNAVTVGVDSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFPIVLAGLPIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSNCEBFFPIVLAGLPIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQSMDFIKNTPOGPKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQCLDTFKRNTPPGQA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
QY 241 TVPFFHFGMFTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
Db 241 TVPFFHFGMFTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEVGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEVGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLTKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
Db 361 PGASGKVVPLFKAKVIDLTKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
Db 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
QY 481 ELPAGVVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 19

US-08-487-183A-12
; Sequence 12, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Scanlon, William J.

; REGISTRATION NUMBER: 31,136
; REFERENCE/DOCKET NUMBER: 19017/166
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (608)258-5035
; TELEFAX: (608)258-4258
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-487-183A-12

Query Match 94.8%; Score 2675; DB 4; Length 548;
Best Local Similarity 93.1%; Pred. No. 1.2e-270;
Matches 510; Conservative 27; Mismatches 11; Indels 0; Gaps 0;

QY 1 MENMENENIVGPKFFPIEBSAGTQLRKYERYAKLGATFNAVTVGVDSYAEYLE 60
Db 1 MENMENENIVGPKFFPIEBSAGTQLRKYERYAKLGATFNAVTVGVDSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSNCEBFFPIVLAGLPIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSNCEBFFPIVLAGLPIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQSMDFIKNTPOGPKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQCLDTFKRNTPPGQA 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAVL 240
QY 241 TVPFFHFGMFTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
Db 241 TVPFFHFGMFTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEVGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEVGEAVARRFNLPGVQGYGLTETTSAILIITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLTKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
Db 361 PGASGKVVPLFKAKVIDLTKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
Db 421 HTGDIGYDEEKHFFIVDRKLSLIKYGQVPPAELESVLLQHPISFDAGVAGVDPVAG 480
QY 481 ELPAGVVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVVVLKKGSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 20

US-09-111-752-7
; Sequence 7, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAZAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400

```

; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
;
; US-09-111-752-7
;
; Query Match 91.7%; Score 2588; DB 3; Length 552;
; Best Local Similarity 90.8%; Pred. No. 1.6e-261;
; Matches 493; Conservative 39; Mismatches 18; Indels 0; Gaps 0;
;
; QY 1 MNNNDENIVGPEPPYPIEBSAGAQRLKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
; DB 1 MNNNDENIVGPKPPYPIEBSAGTQLRKMYERYAKLGAIAFTNAVTVGVDSYAEYLE 60
;
; QY 61 KSCCLGKALQNYGLVWDGRIALCSENCEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
; DB 61 KSCCLGKALQNYGLVWDGRIALCSENCEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
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; QY 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSQMDNFKNTPGQFKG 180
; DB 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSQMDNFKNTPGQFKG 180
;
; QY 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENLVTFRSHARDPIYGNQVSPGTAIL 240
; DB 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENLVTFRSHARDPIYGNQVSPGTAIL 240
;
; QY 241 TVVPFHGFGMFTTGLYLTGCPRIVMLTFRDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
; DB 241 TVVPFHGFGMFTTGLYLTGCPRIVMLTFRDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
;
; QY 301 ELIDKVDLSNLVIAAGAPLSKEIGEAVARBNLPQVRQCGYGLTETTSAILITPEGDDK 360
; DB 301 ELIDKVDLSNLVIAAGAPLSKEIGEAVARBNLPQVRQCGYGLTETTSAILITPEGDDK 360
;
; QY 361 PGAGKGVVPLFKAIVDLDTKTLGNRRGEVGVKGMPLMKGVVONPEATRIIDEEGWL 420
; DB 361 PGAGKGVVPLFKAIVDLDTKTLGNRRGEVGVKGMPLMKGVVONPEATRIIDEEGWL 420
;
; QY 421 HTGDIGYDEKHFPIVDRLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDDPDTAG 480
; DB 421 HTGDIGYDEKHFPIVDRLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDDPDTAG 480
;
; QY 481 ELPCAIVVLLKKGSMTEKEVMDVASQVSNAKRLRGVSVFVDEVPKGLTGKIDGKAIREI 540
; DB 481 ELPCAIVVLLKKGSMTEKEVMDVASQVSNAKRLRGVSVFVDEVPKGLTGKIDGKAIREI 540
;
; QY 541 LKK 543
;
;
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
;
; US-09-111-752-5
;
; Query Match 84.8%; Score 2394; DB 3; Length 552;
; Best Local Similarity 82.9%; Pred. No. 3.1e-241;
; Matches 450; Conservative 54; Mismatches 39; Indels 0; Gaps 0;
;
; QY 1 MNNNDENIVGPEPPYPIEBSAGAQRLKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
; DB 1 MNNNDENIVGPKPPYPIEBSAGTQLRKMYERYAKLGAIAFTNAVTVGVDSYAEYLE 60
;
; QY 61 KSCCLGKALQNYGLVWDGRIALCSENCEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
; DB 61 KSCCLGKALQNYGLVWDGRIALCSENCEBFFIPVLAGLFGVGVAPTNEIYTLRELVHSL 120
;
; QY 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSQMDNFKNTPGQFKG 180
; DB 121 GISKPTIVFSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYSQMDNFKNTPGQFKG 180
;
; QY 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENLVTFRSHARDPIYGNQVSPGTAIL 240
; DB 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENLVTFRSHARDPIYGNQVSPGTAIL 240
;
; QY 241 TVVPFHGFGMFTTGLYLTGCPRIVMLTFRDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
; DB 241 TVVPFHGFGMFTTGLYLTGCPRIVMLTFRDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
;
; QY 301 ELIDKVDLSNLVIAAGAPLSKEIGEAVARBNLPQVRQCGYGLTETTSAILITPEGDDK 360
; DB 301 ELIDKVDLSNLVIAAGAPLSKEIGEAVARBNLPQVRQCGYGLTETTSAILITPEGDDK 360
;
; QY 361 PGAGKGVVPLFKAIVDLDTKTLGNRRGEVGVKGMPLMKGVVONPEATRIIDEEGWL 420
; DB 361 PGAGKGVVPLFKAIVDLDTKTLGNRRGEVGVKGMPLMKGVVONPEATRIIDEEGWL 420
;
; QY 421 HTGDIGYDEKHFPIVDRLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDDPDTAG 480
; DB 421 HTGDIGYDEKHFPIVDRLKSLIKYGVQVPAELESVLLQHPNIFDAGVAGVDDPDTAG 480
;
; QY 481 ELPCAIVVLLKKGSMTEKEVMDVASQVSNAKRLRGVSVFVDEVPKGLTGKIDGKAIREI 540
; DB 481 ELPCAIVVLLKKGSMTEKEVMDVASQVSNAKRLRGVSVFVDEVPKGLTGKIDGKAIREI 540
;
; QY 541 LKK 543
;

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QY 301 ELLDKYDLSNLVEIASGGAPLSKETGEAVARRFNLPVVRQGYGLTETTSATIIITPEGDDK 360
Db 301 TLIDKYDLSNLVEIASGGAPLSKETGEAVARRFNLPVVRQGYGLTETTSATIIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGNRGRGVCVKGPMLMKGYVDNPEATREIIDEAGWL 420
Db 361 PGAVKGVVPLFKAKVIDLDTKTLGNRGRGVCVKGPMLMKGYVDNPEATREIIDEAGWL 420
QY 421 HTGDIGYDEEKHFFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAG 480
Db 421 HSGDIAYWDEDEHFFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAG 480
QY 481 ELPGAVVVLKKGKSTKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAAVVLEHGKTMTEKEIVDVASQVTTAKKRGVVVFVDEVPKGLTGKIDGKAIREI 540
QY 541 LXX 543
Db 541 LJK 543

RESULT 22

US-09-380-061B-18
; Sequence 18, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRRELL, DAVID JAMES
; WHITE, PETER JOHN
; LOWE, CHRISTOPHER ROBIN
; MURRAY, JAMES AUGUSTUS HENRY
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/380,061B
; FILING DATE: 25-Aug-1999
; CLASSIFICATION: <unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 18:
US-09-380-061B-18

Query Match 82.7%; Score 2335.5; DB 3; Length 548;
Best Local Similarity 81.7%; Pred. No. 4e-235;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIVYGPBPYPPIEBGSAQILKYMWRVAKUGAIAFTNALTGVDVITYAEYLEKSC 63
Db 3 MEKEENVYVGLPFYPIEBGSAQILKHMVHQAIAFASNALTGVDVITYAEYLEKSC 62
QY 64 CLGSAKNVGLVVDGRTALCSECEFFIPVLALGFLTGCVAPNEIYTLRELNVHSLGIS 123
Db 63 RLAEAKNFKGKPEEHTALCSECEFFIPVLALGFLTGCVAPNEIYTLRELNVHSLGIS 122
QY 124 KPTIVFSKXGLDKVITVQKVTALTKITVILDSKVYRGYQSMNFIKNTPOGFGKSSF 183
Db 123 QPTIVFSRKRGLPKVLEVQKTVTCIKKIVILDSKVAPFGHDCMETFIKTHIVELGFOPSSF 182
QY 184 KTVEV-NRKEQVALIMNMSGSTGLPKGVQLTHENLVTRFPHARDPIYGNVSPGTALTIV 242
Db 183 VPIDNKRKHVALIMNMSGSTGLPKGVRLTHGAVTRFPHARDPIYGNVSPGTALTIV 242
QY 243 VPHEHGFEMTTLLGYLTCGFRIYMLTKFDBETFLKLDYKCSVILVPTLFAILNRSEL 302
Db 243 VPHEHGFEMTTLLGYPACGYRVVMLTKFDBELFLRLQDYKCTSVILVPTLFAILNRSEL 302
QY 303 LDKYDLSNLVEIASGGAPLSKETGEAVARRFNLPVVRQGYGLTETTSATIIITPEGDDKPG 362
Db 303 IDKFDLSNLVEIASGGAPLAKEGEAVARRFNLPVVRQGYGLTETTSATIIITPEGDDKPG 362
QY 363 ASGKVVPLFKAKVIDLDTKTLGNRGRGVCVKGPMLMKGYVDNPEATREIIDEAGWLHT 422
Db 363 ASGKVVPLFKAKVIDLDTKTLGNRGRGVCVKGPMLMKGYVDNPEATREIIDEAGWLHT 422
QY 423 GDIGYDEEKHFFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
Db 423 GDIGYDEDEHFFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
QY 483 PGAVVVLKKGKSTKEVMDYVASOVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 483 PGAVVVMKKGKTMTEKEIVDVNSQVNVNHRIRGGVRFVDEVPKGLTGKIDGKAIREILK 542
QY 543 KPVAKM 548
Db 543 KPQAKM 548

RESULT 23

US-08-487-183A-16
; Sequence 16, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:

NAME: Scanlon, William J.
 REGISTRATION NUMBER: 31,136
 REFERENCE/DOCKET NUMBER: 19017/166
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (608)258-5035
 TELEFAX: (608)258-4258
 INFORMATION FOR SEQ ID NO: 16:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 548 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 US-08-487-183A-16

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4e-235;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPPYPIEESGAGALRKYMRYAKLGAIAFTNALTGVDTYAYEYLEKSC 63
 Db 3 MEKENVYVGLPPIEESGAGIQLHKYHQYAKLGAIAFSAFTNALTGVDSIYQYEDITC 62
 QY 64 CLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFGVGVAPTNIEYTLRELNVHSLGIS 123
 Db 63 RLAEAMKNGFMKPEEHIALCSECEFFIPVLAGLFGVGVAPTNIEYTLRELNVHSLGIS 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFGKSSF 183
 Db 123 QPTIVFSSRGLPKVLEVQKTVTCIKKIVILDSKVNFGGHDCEMETFIKKHVELGQPSF 182
 QY 184 KTVFV-NRKEQVALIMNMSGSTGLPKGVQLTHENLVTRFSDHARDPIYGNQVSPGTALTIV 242
 Db 183 VPIDVKNRKQHVALLMNSGSGTGLPKGVRLTHEGAVTRFSDHARDPIYGNQVSPGTALTIV 242
 QY 243 VPFHFGFMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHFGFMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRSEL 302
 QY 303 LDYKDLNLVEIASGGAPLSKEIGAVARRFNLPGVRQGYGLTETTSAILITPEGDDKPG 362
 Db 303 IDKFDLSNLTETIASGGAPLSKEIGAVARRFNLPGVRQGYGLTETTSAILITPEGDDKPG 362
 QY 363 ASGWVPLFKAKVIDLTKTLGNRRGEVCVKGPMKGYVDNPRATREIIDEEGWLHT 422
 Db 363 ASGWVPLFKAKVIDLTKTLGNRRGEVCVKGPMKGYVDNPRATREIIDEEGWLHT 422
 QY 423 GDIGYDEEKHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 423 GDIGYDEDEHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMYDVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKSMTEKEIVDVYNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDKAVIREILK 542
 QY 543 KPVAKM 548
 Db 543 KPOAKM 548

RESULT 24
 US-09-396-154-29
 Sequence 29, Application US/09396154
 Patent No. 6602677
 GENERAL INFORMATION:
 APPLICANT: Wood, Keith V.
 APPLICANT: Hall, Mary P.
 TITLE OF INVENTION: Thermostable luciferases and methods of
 production
 FILE REFERENCE: 341.012US1
 CURRENT APPLICATION NUMBER: US/09/396,154
 CURRENT FILING DATE: 1999-09-15
 EARLIER APPLICATION NUMBER: US 09/156,946
 EARLIER FILING DATE: 1998-09-18

EARLIER APPLICATION NUMBER: PCT/US98/19494
 EARLIER FILING DATE: 1998-09-18
 EARLIER APPLICATION NUMBER: US 60/059,379
 EARLIER FILING DATE: 1997-09-19
 NUMBER OF SEQ ID NOS: 93
 SOFTWARE: FastSeq for Windows Version 3.0
 SEQ ID NO 29
 LENGTH: 548
 TYPE: PRT
 ORGANISM: Luciola mingrelica
 US-09-396-154-29

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4e-235;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPPYPIEESGAGALRKYMRYAKLGAIAFTNALTGVDTYAYEYLEKSC 63
 Db 3 MEKENVYVGLPPIEESGAGIQLHKYHQYAKLGAIAFSAFTNALTGVDSIYQYEDITC 62
 QY 64 CLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFGVGVAPTNIEYTLRELNVHSLGIS 123
 Db 63 RLAEAMKNGFMKPEEHIALCSECEFFIPVLAGLFGVGVAPTNIEYTLRELNVHSLGIS 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFGKSSF 183
 Db 123 QPTIVFSSRGLPKVLEVQKTVTCIKKIVILDSKVNFGGHDCEMETFIKKHVELGQPSF 182
 QY 184 KTVFV-NRKEQVALIMNMSGSTGLPKGVQLTHENLVTRFSDHARDPIYGNQVSPGTALTIV 242
 Db 183 VPIDVKNRKQHVALLMNSGSGTGLPKGVRLTHEGAVTRFSDHARDPIYGNQVSPGTALTIV 242
 QY 243 VPFHFGFMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHFGFMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRSEL 302
 QY 303 LDYKDLNLVEIASGGAPLSKEIGAVARRFNLPGVRQGYGLTETTSAILITPEGDDKPG 362
 Db 303 IDKFDLSNLTETIASGGAPLSKEIGAVARRFNLPGVRQGYGLTETTSAILITPEGDDKPG 362
 QY 363 ASGWVPLFKAKVIDLTKTLGNRRGEVCVKGPMKGYVDNPRATREIIDEEGWLHT 422
 Db 363 ASGWVPLFKAKVIDLTKTLGNRRGEVCVKGPMKGYVDNPRATREIIDEEGWLHT 422
 QY 423 GDIGYDEEKHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 423 GDIGYDEDEHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMYDVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKSMTEKEIVDVYNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDKAVIREILK 542
 QY 543 KPVAKM 548
 Db 543 KPOAKM 548

RESULT 25
 US-09-380-061B-20
 Sequence 20, Application US/09380061B
 Patent No. 6265177
 GENERAL INFORMATION:
 APPLICANT: SQUIRRELL, DAVID JAMES
 APPLICANT: WHITE, PETER JOHN
 APPLICANT: LOWE, CHRISTOPHER ROBIN
 APPLICANT: MURRAY, JAMES AUGUSTUS HENRY
 TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 NUMBER OF SEQUENCES: 21
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: NIXON & VANDERHYE P.C.
 STREET: 1100 NORTH GLEBE ROAD
 CITY: ARLINGTON
 STATE: VIRGINIA

COUNTRY: U.S.A.
ZIP: 22201-4714
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25 (BPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/380,061B
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB98/01026
FILING DATE: 7-APR-1998
APPLICATION NUMBER: GB 9707468.8
FILING DATE: 11-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: SAOFF, B. J.
REGISTRATION NUMBER: 36,663
REFERENCE/DOCKET NUMBER: 124-725
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703)816-4000
TELEFAX: (703)816-4100
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 547 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 20:
US-09-380-061B-20

Query Match 69.6%; Score 1965.5; DB 3; Length 547;
Best Local Similarity 69.0%; Pred. No. 2.1e-196;
Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY 4 MENDENIVGPEPFYIEGSAQAKYKMDRYAKL-GAIAFTNALTGYDYTYAEVLEKS 62
DB 1 MEDAKNIMHGAPFYFLEDGTAGEQLHKAMKRYAQPGTIAFDAEAVNIYSEYFENA 60
QY 63 CCLGEALXNYGLVVDGRIALCSENCEEFFIPVLAGLFIVGVAPTNEIYTLRELVHSLGI 122
DB 61 CRLAETMKRYGLQLQHHIAVCSENSLQFFMFCVCGALFVGVGVASTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKYDYRGYSMDNFIKNTPOGPKGSS 182
DB 121 SPTIVSCSKRALQKILGVQKKLPIIQKIVILDSREDYMGKQSMYSFIESHLPAGFNEYD 180
QY 183 FKTVEVNRKEQVALIMNSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 242
DB 181 YIPDSFDRETATALIMNSGSTGLPKGVQLTHENLVTRFSHARDPIYGNQVSPGTAILTV 240
QY 243 VPHHFGFMTTLGYLTGCPRIVLMYTKFDEETPLKTLQDYKCSSVILVPTLFAILNRSEL 302
DB 241 IPFHFGFMTTLGYLTGCPRIVLMYRFEELFRLSDYKIQSALLVPTLFSFFAKSTL 300
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DB 301 VDKYDLSNLVEIASGGAPLAKVEGEAVAKRFLPGIRQGYGLTETTSAIIITPEGDDKPG 360
QY 363 ASGWVPLFPAKVIDLTKTLGNRGEVGVKPMKMGVYDNPATREIIDECEWLHT 422
DB 361 ACGWVPLFPAKVIDLTKTLGNRGEVGVKPMKMGVYDNPATREIIDECEWLHT 420
QY 423 GDLYGDEEKHFFIVDRKSLIKYGVQVPEPALESVLLQHPNIFDAGVAGVDPDPIAGEL 482
DB 421 GDLYGDEEKHFFIVDRKSLIKYGVQVPEPALESVLLQHPNIFDAGVAGVDPDPIAGEL 480
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DB 481 PAAVWLEEGKTWTEQVMDYVAGQVTASKRLGGVKFVDEVPKGLTGKIDGKAIREIL 539

[Faint, illegible text covering the majority of the page, likely bleed-through from the reverse side.]

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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:02:44 ; Search time 15.6667 Seconds
(without alignments)
1805.811 Million cell updates/sec

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Perfect score: 2823
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Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database :

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2: /cgn2_6/prodata/2/1aa/5B_COMB.pep:*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

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		Match	Length			
1	2817	99.8	548	2	US-08-460-934-2	Sequence 2, Appli
2	2817	99.8	548	2	US-08-782-118-2	Sequence 2, Appli
3	2815	99.7	548	3	US-09-111-752-14	Sequence 14, Appli
4	2814	99.7	548	1	US-07-903-047-8	Sequence 8, Appli
5	2814	99.7	548	3	US-09-380-061B-16	Sequence 16, Appli
6	2812	99.6	636	2	US-08-460-934-9	Sequence 9, Appli
7	2812	99.6	636	2	US-08-782-118-9	Sequence 9, Appli
8	2806	99.4	548	4	US-08-487-183A-14	Sequence 14, Appli
9	2805	99.4	548	4	US-09-396-154-28	Sequence 28, Appli
10	2799	99.1	568	2	US-08-460-934-6	Sequence 6, Appli
11	2799	99.1	568	2	US-08-782-118-6	Sequence 6, Appli
12	2793	98.9	548	4	US-09-602-628-10	Sequence 10, Appli
13	2701	95.7	552	3	US-09-111-752-10	Sequence 10, Appli
14	2684	95.1	548	1	US-07-675-211-2	Sequence 2, Appli
15	2684	95.1	548	1	US-07-903-047-2	Sequence 2, Appli
16	2684	95.1	548	1	US-08-076-042-2	Sequence 2, Appli
17	2684	95.1	548	3	US-09-380-061B-14	Sequence 14, Appli
18	2684	95.1	548	4	US-09-396-154-27	Sequence 27, Appli
19	2675	94.8	548	4	US-08-487-183A-12	Sequence 12, Appli
20	2590	91.7	552	3	US-09-111-752-7	Sequence 7, Appli
21	2394	84.8	552	3	US-09-111-752-5	Sequence 5, Appli
22	2335.5	82.7	548	3	US-09-380-061B-18	Sequence 18, Appli
23	2335.5	82.7	548	4	US-08-487-183A-16	Sequence 16, Appli
24	2335.5	82.7	548	4	US-09-396-154-29	Sequence 29, Appli
25	1967.5	69.7	547	3	US-09-380-061B-20	Sequence 20, Appli
26	1967.5	69.7	547	4	US-09-396-154-32	Sequence 32, Appli
27	1956.5	69.3	550	1	US-08-354-240A-4	Sequence 4, Appli

ALIGNMENTS

RESULT 1

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US-08-460-934-2
; Sequence 2, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis
; US-08-460-934-2

Query Match 99.8%; Score 2817; DB 2; Length 548;
Best Local Similarity 99.6%; Pred. No. 4.5e-289;
Matches 546; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Dy 1 MENNENDENTIVGPEPPYPIEBSAGAKYKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
Qy 61 KSCCLGALKNYGLVVDGRIALCSNCEEFIPVLGLFVGVPATNEIYTLRELVAHSL 120
Dy 61 KSCCLGALKNYGLVVDGRIALCSNCEEFIPVLGLFVGVPATNEIYTLRELVAHSL 120

61 KSCCLGALKNYGLVVDGRIALCSNCEEFIPVLGLFVGVPATNEIYTLRELVAHSL 120
Qy 121 GISKPTIVFSSKKGGLDKVITVQKVTAKITVILDSKVDYRGYSMDNFIKKNTPQGFKG 180
Dy 121 GISKPTIVFSSKKGGLDKVITVQKVTAKITVILDSKVDYRGYSMDNFIKKNTPQGFKG 180
Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Dy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Qy 241 TVPFFHGFNGFTTLGYLTCGFRIVMLTKPDEETFLKTLQDYKCSSLVILPTLFAILNRS 300
Dy 241 TVPFFHGFNGFTTLGYLTCGFRIVMLTKPDEETFLKTLQDYKCSSLVILPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGAPLSKEIGSAVARRENLPGRVQGYGLTETTSALIIITPEGDDK 360
Dy 301 ELLDKYDLSNLVEIASGAPLSKEIGSAVARRENLPGRVQGYGLTETTSALIIITPEGDDK 360
Qy 361 PGASGVVPLPKAKVIDLDTKTLGPNRGEVCKVGMMLKMGYVDNPEATREIIDEGWL 420
Dy 361 PGASGVVPLPKAKVIDLDTKTLGPNRGEVCKVGMMLKMGYVDNPEATREIIDEGWL 420
Qy 421 HTGDIGYVDEEKHFFIVDRLSLKIYKGYOVPPAELESVLLQHPNIEDAGVAGVDPDIAG 480
Dy 421 HTGDIGYVDEEKHFFIVDRLSLKIYKGYOVPPAELESVLLQHPNIEDAGVAGVDPDIAG 480
Qy 481 ELPGAVVVLKKGKSMTEKVMNDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Dy 481 ELPGAVVVLKKGKSMTEKVMNDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKKPVAKM 548
Dy 541 LKKPVAKM 548

RESULT 2
US-08-782-118-2
; Sequence 2, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/782,118
; FILING DATE: 13-JAN-1997
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/460,934
; FILING DATE: 05-JUN-1995
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis
; US-08-460-934-2
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QY 481 ELPGAVVVLKKGKSMTEKEMDVYASQVSNKRLRGVRFVDPKGLTGKIDGKAI REI 540
 DB 481 ELPGAVVVLKKGKSMTEKEMDVYASQVSNKRLRGVRFVDPKGLTGKIDGKAI REI 540
 QY 541 LKKPVAKM 548
 DB 541 LKKPVAKM 548
 RESULT 4
 US-07-903-047-8
 ; Sequence 8, Application US/07903047
 ; Patent No. 5229285
 ; GENERAL INFORMATION:
 ; APPLICANT: Kajiya, Naoki
 ; APPLICANT: Nakan, Eiichi
 ; TITLE OF INVENTION: Thermostable Luciferase Of Firefly,
 ; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombi
 ; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
 ; TITLE OF INVENTION: Luciferase Of Firefly
 ; NUMBER OF SEQUENCES: 11
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Pennie & Edmonds
 ; STREET: 1155 Avenue of the Americas
 ; CITY: New York
 ; STATE: New York
 ; COUNTRY: U.S.A.
 ; ZIP: 10036-2711
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/07/903,047
 ; FILING DATE: 19920623
 ; CLASSIFICATION: 435
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Misrock, S. Leslie
 ; REGISTRATION NUMBER: 18,872
 ; REFERENCE/DOCKET NUMBER: 7005-048
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 212 790-9090
 ; TELEFAX: 212 869-8864/9741
 ; TELEX: 66141 PENNIE
 ; INFORMATION FOR SEQ ID NO: 8:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: AMINO ACID
 ; STRANDEDNESS: single
 ; TOPOLOGY: unknown
 ; MOLECULE TYPE: peptide
 ; US-07-903-047-8
 Query Match 99.7%; Score 2814; DB 1; Length 548;
 Best Local Similarity 99.6%; Pred. No. 9.4e-289;
 Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MENNENDENIVGPPEFYPIEBSAGAKRKYMDRYAKLGAFTNALTGVDTYVAEYLE 60
 DB 1 MENNENDENIVGPPEFYPIEBSAGAKRKYMDRYAKLGAFTNALTGVDTYVAEYLE 60
 QY 61 KSCCLGEALKNYGLVVDGRALCSECEBFFIPVLGLFVGVPNTNIEYTLRELHVS 120
 DB 61 KSCCLGEALKNYGLVVDGRALCSECEBFFIPVLGLFVGVPNTNIEYTLRELHVS 120
 QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKDYRGYSQMDNFIKNTPOGFKG 180
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DB 181 SSFKTEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
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 RESULT 5
 US-09-380-061B-16
 ; Sequence 16, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; LOWE, CHRISTOPHER ROBIN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHYE P. C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA
 ; COUNTRY: U.S.A.
 ; ZIP: 22201-4714
 ; COMPUTER READABLE FORM:
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 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25 (EPO)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/380,061B
 ; FILING DATE: 25-Aug-1999
 ; CLASSIFICATION: <Unknown>
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/GB98/01026
 ; FILING DATE: 7-APR-1998
 ; APPLICATION NUMBER: GB 9707468.8
 ; FILING DATE: 11-APR-1997
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SADOFF, B. J.
 ; REGISTRATION NUMBER: 36,663
 ; REFERENCE/DOCKET NUMBER: 124-725
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (703) 816-4000
 ; TELEFAX: (703) 816-4100
 ; INFORMATION FOR SEQ ID NO: 16:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 16:

US-09-380-061B-16

Query Match 99.7%; Score 2814; DB 3; Length 548;
 Best Local Similarity 99.6%; Pred. No. 9.4e-289;
 Matches 546; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

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QY 1 MENMENENIVTGPBPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENENIVTGPBPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCBEEFFIPVLAGLFIGVGAPTNETITLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSENCBEEFFIPVLAGLFIGVGAPTNETITLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHFGMFTTLGYLTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHFGMFTTLGYLTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGRQGYGLTETTSALITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGRQGYGLTETTSALITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMKMGYVNDPNPATREIIDEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMKMGYVNDPNPATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFHFDVRLKSLIKYKQVPPAELESVILLOHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFHFDVRLKSLIKYKQVPPAELESVILLOHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

```

RESULT 6

US-08-460-934-9

Sequence 9, Application US/08460934

Patent No. 5814465

GENERAL INFORMATION:

APPLICANT: TATSUMI, HIROKI

APPLICANT: FUKUDA, SATOSHI

APPLICANT: KIKUCHI, MAMORU

APPLICANT: KOYAMA, YASUHI

TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE

TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A

TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT

TITLE OF INVENTION: ANALYSIS METHOD

NUMBER OF SEQUENCES: 14

CORRESPONDENCE ADDRESS:

ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MATER & NEUSTADT,

ADDRESSEE: P.C.

STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR

CITY: ARLINGTON

STATE: VA

COUNTRY: USA

ZIP: 22202

COMPUTER READABLE FORM:

MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible

OPERATING SYSTEM: PC-DOS/MS-DOS

SOFTWARE: PatentIn Release #1.0, Version #1.30

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/08/460,934

FILING DATE: 05-JUN-1995

CLASSIFICATION: 435

PRIOR APPLICATION DATA:

APPLICATION NUMBER: JP 193798/1994

FILING DATE: 27-JUL-1994

PRIOR APPLICATION DATA:

APPLICATION NUMBER: JP 54625/1995

FILING DATE: 14-MAR-1995

PRIOR APPLICATION DATA:

APPLICATION NUMBER: JP 98857/1995

FILING DATE: 24-APR-1995

ATTORNEY/AGENT INFORMATION:

NAME: OBLON, NORMAN F.

REGISTRATION NUMBER: 24,618

REFERENCE/DOCKET NUMBER: 7126-001-0

TELECOMMUNICATION INFORMATION:

TELEPHONE: 703-413-3000

TELEFAX: 703-413-2220

INFORMATION FOR SEQ ID NO: 9:

SEQUENCE CHARACTERISTICS:

LENGTH: 636 amino acids

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: protein

US-08-460-934-9

Query Match 99.6%; Score 2812; DB 2; Length 636;

Best Local Similarity 99.6%; Pred. No. 2e-288;

Matches 545; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MENMENENIVTGPBPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENENIVTGPBPFPPIEESGAGAKRKYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSENCBEEFFIPVLAGLFIGVGAPTNETITLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSENCBEEFFIPVLAGLFIGVGAPTNETITLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGPKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHFGMFTTLGYLTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHFGMFTTLGYLTCGFRIVMLTKFDEETFLKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGRQGYGLTETTSALITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGRQGYGLTETTSALITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMKMGYVNDPNPATREIIDEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKKTLPNRRGEVCVKGPMKMGYVNDPNPATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFHFDVRLKSLIKYKQVPPAELESVILLOHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFHFDVRLKSLIKYKQVPPAELESVILLOHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAK 547
DB 541 LKKPVAK 547

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RESULT 7
 US-08-782-118-9
 ; Sequence 9, Application US/08782118
 ; Patent No. 5843746
 ; GENERAL INFORMATION:
 ; APPLICANT: TATSUMI, HIROKI
 ; APPLICANT: FUKUDA, SATOSHI
 ; APPLICANT: KIKUCHI, MAMORU
 ; APPLICANT: KOYAMA, YASUJI
 ; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
 ; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
 ; TITLE OF INVENTION: ANALYSIS METHOD
 ; NUMBER OF SEQUENCES: 14
 ; CORRESPONDENCE ADDRESS: 14
 ; ADDRESSEE: P. C. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
 ; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
 ; CITY: ARLINGTON
 ; STATE: VA
 ; COUNTRY: USA
 ; ZIP: 22202
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/782,118
 ; FILING DATE: 13-JAN-1997
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/460,934
 ; FILING DATE: 05-JUN-1995
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ; PRIOR APPLICATION DATA: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ; APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 9:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 636 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-782-118-9
 Query Match 99.6%; Score 2812; DB 2; Length 636;
 Best Local Similarity 99.6%; Pred. No. 2e-288; 0; Indels 0; Gaps 0;
 Matches 545; Conservative 2; Mismatches 0;

QY 1 MENMENDENIVGPEFFPIEESAGALRKYMRYAKLGAJAFNALTGVDYTYAEYLE 60
 DB 1 MENMENDENIVGPEFFPIEESAGALRKYMRYAKLGAJAFNALTGVDYTYAEYLE 60
 QY 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLFVGIVGAPTNEIYTLRELVHSL 120
 DB 61 KSCCLGEALKNYGLVVDGRIALCSENCEFFIPVLGLFVGIVGAPTNEIYTLRELVHSL 120
 QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFKIKNTPQGFKG 180
 DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFKIKNTPQGFKG 180

QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
 DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
 QY 241 TVVPFHGFGMFTTLGKLTGCFRIWMLTKDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
 DB 241 TVVPFHGFGMFTTLGKLTGCFRIWMLTKDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
 QY 301 ELLDKYDLNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSAILITPEGDDK 360
 DB 301 ELLDKYDLNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSAILITPEGDDK 360
 QY 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGMMLKMGYVDNPEATREIIDSEGL 420
 DB 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGMMLKMGYVDNPEATREIIDSEGL 420
 QY 421 HTGDIGYDEKHEFFIVDRKLSLKYKYOVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
 DB 421 HTGDIGYDEKHEFFIVDRKLSLKYKYOVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
 QY 481 ELPGAUVVLEKGSMTKEVMDYVASQVSNAKLRRGVRFDVPEPKLTGKIDGKAIREI 540
 DB 481 ELPGAUVVLEKGSMTKEVMDYVASQVSNAKLRRGVRFDVPEPKLTGKIDGKAIREI 540
 QY 541 LKXPVAK 547
 DB 541 LKXPVAK 547

RESULT 8
 US-08-487-183A-14
 ; Sequence 14, Application US/08487183A
 ; Patent No. 6387875
 ; GENERAL INFORMATION:
 ; APPLICANT: WOOD, Keith V.
 ; APPLICANT: GRUBER, Monika G.
 ; TITLE OF INVENTION: MUTANT LUCIFERASES
 ; NUMBER OF SEQUENCES: 16
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Foley & Lardner
 ; STREET: P.O. Box 1497
 ; CITY: Madison
 ; STATE: WI
 ; COUNTRY: USA
 ; ZIP: 53701-1497
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/487,183A
 ; FILING DATE: 06-JUN-1995
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/467,773
 ; FILING DATE: 06-JUN-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/177,081
 ; FILING DATE: 03-JAN-1994
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: Scallion, William J.
 ; REGISTRATION NUMBER: 31,136
 ; REFERENCE/DOCKET NUMBER: 19017/166
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (608)258-5035
 ; TELEFAX: (608)258-4258
 ; INFORMATION FOR SEQ ID NO: 14:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear

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; MOLECULE TYPE: protein
; US-08-487-183A-14

Query Match      99.4%; Score 2806; DB 4; Length 548;
Best Local Similarity 99.5%; Pred. No. 6.6e-288;
Matches 545; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVVGPPEFYPIEBSAGAQRLKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVVGPPEFYPIEBSAGAQRLKYMRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSNCEBEFFIPVLAGLFIGVGVAPTNELTYLRELHVS 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSNCEBEFFIPVLAGLFIGVGVAPTNELTYLRELHVS 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGHGFMFTTGLYLTGCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGHGFMFTTGLYLTGCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRQGYGLTETTSALIIITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGRQGYGLTETTSALIIITPEGDDK 360
QY 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVVCVKGPMLMKGYVDNPEATREIIDEGBWL 420
DB 361 PGASGKVVPLFKAKVIDLTKTLGNRRGEVVCVKGPMLMKGYVDNPEATREIIDEGBWL 420
QY 421 HTGDIGYDEEKHFVIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFVIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPAGVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPAGVVVLKKGKSMTEKVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKPPVAKM 548
DB 541 LKPPVAKM 548

RESULT 10
US-08-460-934-6
; Sequence 6, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OSLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30

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QY 183 FKTVEVRKQVALLMNSGSGTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAILTV 242
DB 203 FKTVEVRKQVALLMNSGSGTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAILTV 262
QY 243 VPFHGFQFTTGLGYLTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNRSEL 302
DB 263 VPFHGFQFTTGLGYLTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNRSEL 322
QY 303 LKDYLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSAILITPBGDDKPG 362
DB 323 LKDYLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSAILITPBGDDKPG 382
QY 363 ASGKVVPLPKAKVIDLDTKKTLPNRRGEVCKGPMKMGVVDNPEATREIIDEEGWLHT 422
DB 383 ASGKVVPLPKAKVIDLDTKKTLPNRRGEVCKGPMKMGVVDNPEATREIIDEEGWLHT 442
QY 423 GDIGYDEEKHFFIVDRLSKLIKYKGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 482
DB 443 GDIGYDEEKHFFIVDRLSKLIKYKGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGEL 502
QY 483 PGAVVVLKKGKSMTEKVMYDVASQVSNKRLRGGRVRFVDEVPKGLTGKIDGKAIREILK 542
DB 503 PGAVVVLKKGKSMTEKVMYDVASQVSNKRLRGGRVRFVDEVPKGLTGKIDGKAIREILK 562
QY 543 KPVAKM 548
DB 563 KPVAKM 568
RESULT 12
US-09-602-628-10
; Sequence 10, Application US/09602628
; Patent No. 6495355
; GENERAL INFORMATION:
; APPLICANT: Eames, Brian
; APPLICANT: Contag, Christopher
; TITLE OF INVENTION: Red-Shifted Luciferase
; FILE REFERENCE: SUN-127
; CURRENT APPLICATION NUMBER: US/09/602,628
; CURRENT FILING DATE: 2000-06-21
; PRIOR APPLICATION NUMBER: 60/140,598
; PRIOR FILING DATE: 1999-06-22
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-09-602-628-10
Query Match 98.9%; Score 2793; DB 4; Length 548;
Best Local Similarity 98.7%; Pred. No. 1.6e-286;
Matches 541; Conservative 4; Mismatches 3; Indels 0; Gaps 0;
QY 1 MENMENDENIVGPEPFPIEGSAGAQLRKYMDRYAKLGATFNAFTGVDYTYAEYLE 60
DB 1 MENMNDENIVGPEPFPIEGSAGAQLRKYMDRYAKLGATFNAFTGVDYTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAFTNEIYTLRELHVSL 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGAFTNEIYTLRELHVSL 120
QY 121 GISKPTIVSSKGLDKVTIVQKTVTAIKTIVILDSKVYRGYQSDMNFIKKNTPPGPKG 180
DB 121 GISKPTIVSSKGLDKVTIVQKTVTAIKTIVILDSKVYRGYQSDMNFIKKNTPPGPKG 180
QY 181 SSKFTVEVRKQVALLMNSGSGTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAIL 240
DB 181 SSKFTVEVRKQVALLMNSGSGTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAIL 240
QY 241 TVVPFHGFMFTTGLYLTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNR 300
DB 241 TVVPFHGFMFTTGLYLTCGFRIVMLTKDEETFLKTLQDYKSSVILVPTLFAILNR 300

QY 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSAILITPBGDDK 360
DB 301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSAILITPBGDDK 360
QY 361 PGASGKVVPLPKAKVIDLDTKKTLPNRRGEVCKGPMKMGVVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPLPKAKVIDLDTKKTLPNRRGEVCKGPMKMGVVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRLSKLIKYKGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAG 480
DB 421 HTGDIGYDEEKHFFIVDRLSKLIKYKGQVPPAELESVLLQHPNIFDAGVAGVDPDPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKVMYDVASQVSNKRLRGGRVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKVMYDVASQVSNKRLRGGRVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKPEVAKM 548
DB 541 LKPEVAKM 548
RESULT 13
US-09-111-752-10
; Sequence 10, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C. JEFFERSON DAVIS HIGHWAY, SUITE 400
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis, Photinus pyralis
US-09-111-752-10
Query Match 95.7%; Score 2701; DB 3; Length 552;
Best Local Similarity 96.1%; Pred. No. 8.8e-277;
Matches 522; Conservative 11; Mismatches 10; Indels 0; Gaps 0;
QY 1 MENMENDENIVGPEPFPIEGSAGAQLRKYMDRYAKLGATFNAFTGVDYTYAEYLE 60

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61	KSCCLGEALKNYGLVVDGRIALCSENCBEFFIPVLAGLFGVGVPATNEYITLRELHVSL	120
61	KSCCLGEALKNYGLVVDGRIALCSENCBEFFIPVLAGLFGVGVPATNEYITLRELHVSL	120
121	GISKETIIVPSSKGLDKVITVQKTVAIKTIVILDSKVDIRGYQSMDFIKQNTPOGFKG	180
121	GISKETIIVPSSKGLDKVITVQKTVAIKTIVILDSKVDIRGYQSMDFIKQNTPOGFKG	180
181	SSEFKTVEVNRKEQVALIMNSGSGTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAIL	240
181	SSEFKTVEVNRKEQVALIMNSGSGTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAIL	240
241	TVVPFHGHGFMFTTIGYITCGFRIVIMLTKPDEETFLKTLDQYKCSSVILVPTLFAILNRS	300
241	TVVPFHGHGFMFTTIGYITCGFRIVIMLTKPDEETFLKTLDQYKCSSVILVPTLFAILNRS	300
301	ELLDKYDLSNLVEIASGGAPISKEIGEAVARFNLPGVROQYGLTETTSAILITPBGDDK	360
301	ELLDKYDLSNLVEIASGGAPISKEIGEAVARFNLPGVROQYGLTETTSAILITPBGDDK	360
361	PGASGKWVPLFKAKVIDJDTKKTJGPNRRGVCVKGPMLMKGYVDNPEAREIIDEEGWL	420
361	PGASGKWVPLFKAKVIDJDTKKTJGPNRRGVCVKGPMLMKGYVDNPEAREIIDEEGWL	420
421	HTGDTGYDDEEKHFFIVDRLLKSLIKYKGQVPPAALESVLLQHPNIPDAGVAGVDPPIAG	480
421	HTGDTGYDDEEKHFFIVDRLLKSLIKYKGQVPPAALESVLLQHPNIPDAGVAGVDPPIAG	480
481	ELUPGAVVVLKKGSKMTEKEVMDYVASOVSNAKRLRGVRFVDEVPKGLTGKIKDGKAIREI	540
481	ELUPAAVVLEHGKWTWEKIVDYVASQVTTAKRLRGVRFVDEVPKGLTGKLDARKIREI	540
541	LKK 543	
541	LJK 543	

RESULT 14

RESULT 14
 US-07-675-211-2
 ; Sequence 2, Application US/07675211
 ; Patent No. 5219737
 ; GENERAL INFORMATION:
 ; APPLICANT: KAJIYAMA, NAOKI
 ; APPLICANT: NAKANO, EIICHI
 ; TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
 ; TITLE OF INVENTION: LUCIFERASE GENES, NOVEL RECOMBINANT DNAS CONTAINING THE
 ; TITLE OF INVENTION: GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
 ; NUMBER OF SEQUENCES: 4
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSER: PENNIE & EDMONDS
 ; STREET: 1155 AVENUE OF THE AMERICAS
 ; CITY: NEW YORK
 ; STATE: N. Y.
 ; COUNTRY: U.S.A
 ; ZIP: 10036
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.25
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/07/675,211
 ; FILING DATE: 19910326
 ; CLASSIFICATION: 435
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: MISROCK, S. LESLIE
 ; REGISTRATION NUMBER: 18,872
 ; REFERENCE/DOCKET NUMBER: 7005-026-999
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 212-790-9090

```

; TELEFAX: 212-869-9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACIDS
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata
;
US-07-675-211-2

Query Match          95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred.No.5.5e-275;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY      1  MENMENDENIVGPEPFYPIEBSAGAQLRYKMDRYAKLGAIAFTNALGTVDVYAEYLE 60
Db      1  MENMENDENIVGPKPFYPIEBSAGTQLRYKRYERYAKLGAIAFTNAVIGDYSYAEYLE 60

QY      61  KSCCLGEALKNYGLVVDGRIALCSENCEBFFPIVLAGLFIGVGVASTNEIYTLRELVHSL 120
Db      61  KSCCLGKALQNYGLVVDGRIALCSENCEBFFPIVLAGLFIGVGVASTNEIYTLRELVHSL 120

QY      121  GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDNFIKNTPOGPKG 180
Db      121  GISKPTIVFSSKGLDKVITVQKTVTTIKTIVILDSKVDYRGYQCUDTFFIKNTPPGFQA 180

QY      181  SSPKTVENVRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Db      181  SSPKTVEDRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAVL 240

QY      241  TVVPFHGGFMFTTLYLTCGGPRIVMLTFDBETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db      241  TVVPFHGGFMFTTLYLTCGFRVVMLTFFDBETFLKTLQDYKCTSVILVPTLFAILNRS 300

QY      301  ELLDKYDLNLVLEIASGGAPLSKEICEAVARFNLPGVRQGYGLTETTSALITTPGDDK 360
Db      301  ELLNKYDLNLVLEIASGGAPLSKEVEGEAVARFNLPGVRQGYGLTETTSALITTPGDDK 360

QY      361  PGAGSKVWPLFLKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGVVDNPEATREIIDEGLW 420
Db      361  PGAGSKVWPLFLKAKVIDLDTKXSLGPNRRGEVCVKGPMLMKGVVNNPEATKELIDEGWL 420

QY      421  HTGDDIGYDDEKHFFIVDRLKSLIKYKGQVPPAELESVLLOHPNIFDAGVAGVDPPIAG 480
Db      421  HTGDDIGYDDEKHFFIVDELKSLIKYKGQVPPAELESVLLQHPISLFDAGVAGVDPFVAG 480

QY      481  ELPGAVVWLKKGKSMTEKEVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db      481  ELPGAVVWLESQNMTEKEVMYDVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540

QY      541  LKKPVAKM 548
Db      541  LKKPVAKM 548

```

RESIT.T 15

RESOL 15
 US-07-903-047-2
 ; Sequence 2, Application US/07903047
 ; Patent No. 5229285
 ; GENERAL INFORMATION:
 ; APPLICANT: Kajiyama, Naoki
 ; APPLICANT: Nakano, Eiichi
 ; TITLE OF INVENTION: Thermostable Luciferase Of Firefly,
 ; TITLE OF INVENTION: Thermostable Luciferase Gene Of Firefly, No. 5229285el Recombir
 ; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
 ; TITLE OF INVENTION: Luciferase Of Firefly
 ; NUMBER OF SEQUENCES: 11
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: Fennie & Edmonds
 ; STREET: 1155 Avenue Of The Americas
 ; CITY: New York

```
STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/903,047
FILING DATE: 19920623
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 7005-048
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212 790-9090
TELEFAX: 212 869-8864/9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-07-903-047-2

Query Match          95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 5.5e-275;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEESGAGLRKYMDRYAKLGAIATFNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPKFPYPIEESGAGTQRLKMYERYAKLGAIATFNALTGVDTYVAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAPTNIEYTLRELVHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAPTNIEYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFIKKNTPOGPKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFIKKNTPOGPKG 180
QY 181 SSFKTIVFNKQKVALIMNMSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTIVFNKQKVALIMNMSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFHGMFTTGLYLTGCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFHGMFTTGLYLTGCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300

STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/076,042
FILING DATE: 19920623
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: Misrock, S. Leslie
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 7005-048
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212 790-9090
TELEFAX: 212 869-8864/9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-08-076-042-2

Query Match          95.1%; Score 2684; DB 1; Length 548;
Best Local Similarity 93.4%; Pred. No. 5.5e-275;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEESGAGLRKYMDRYAKLGAIATFNALTGVDTYVAEYLE 60
Db 1 MENMENDENIVGPKFPYPIEESGAGTQRLKMYERYAKLGAIATFNALTGVDTYVAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAPTNIEYTLRELVHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAPTNIEYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFIKKNTPOGPKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSDMNFIKKNTPOGPKG 180
QY 181 SSFKTIVFNKQKVALIMNMSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTIVFNKQKVALIMNMSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFHGMFTTGLYLTGCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFHGMFTTGLYLTGCGFRIVMLTKFDEBETFLKTLQDYKCSVILVPTLFAILNRS 300
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QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
DB 301 ELLNKYDLSNLVEIASGGAPLSKEVGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGNRRGECVKGPMKMGVVDNPEATRIIDEEGWL 420
DB 361 PGASGVVPLFKAKVIDLDTKSLGNRRGECVKGPMKMGVVDNPEATKELIDEEGWL 420
QY 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
DB 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
QY 481 ELPGAVVLLKKGSKMTEKEVMDIVASQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVLLSGGKMTKEVMDIVASQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKXPVAKM 548
DB 541 LKXPVAKM 548

RESULT 17

US-09-380-061B-14
; Sequence 14, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRRELL, DAVID JAMES
; WHITE, PETER JOHN
; LOWE, CHRISTOPHER ROBIN
; MURRAY, JAMES AUGUSTUS HENRY
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25 (BPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/380,061B
; FILING DATE: 25-Aug-1999
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703) 816-4000
; TELEFAX: (703) 816-4100
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 14:
US-09-380-061B-14

Query Match 95.1%; Score 2684; DB 3; Length 548;
Best Local Similarity 93.4%; Pred. No. 5.5e-275;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENNENDENIVGPEPPYPIEESAGQALRKYMDRYAKLGAIAFTNALTGVDYTYAYBLE 60
DB 1 MENNENDENIVGPKFPYPIEESAGTQLRKYMERVAKLGAIAFTNAVTGVDYSYAYBLE 60
QY 61 KSCCLGALKNYGIADVDRIALCSENECEFFIPVLAGLFGVGVAPNEIYTIRELHVSL 120
DB 61 KSCCLGALKNYGIADVDRIALCSENECEFFIPVIAGLFGVGVAPNEIYTIRELHVSL 120
QY 121 GISKPTIVFSKSGELDKVITVQKTVTAIKTIVILDSKVDYRGYSMDNFKKKTPGFXG 180
DB 121 GISKPTIVFSKSGELDKVITVQKTVTITKIVILDSKVDYRGYQCLDTFKRNTPPGQA 180
QY 181 SSFKTVENRKEQVALLMNSGSGTGLPKGVQLTHENIVTRFSHAROPTYGNQVSPGTAIL 240
DB 181 SSFKTVEDRKEQVALLMNSGSGTGLPKGVQLTHENIVTRFSHAROPTYGNQVSPGTAVL 240
QY 241 TVPFFHGFMTGLTCTGFRIVMLTKFDEETFLTKLDYKCSVILVPTLFAILNRS 300
DB 241 TVPFFHGFMTGLYLICGFRVVMILTKEDEETFLTKLDYKCTSVILVPTLFAILNKS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
DB 301 ELLNKYDLSNLVEIASGGAPLSKEVGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGNRRGECVKGPMKMGVVDNPEATRIIDEEGWL 420
DB 361 PGASGVVPLFKAKVIDLDTKSLGNRRGECVKGPMKMGVVDNPEATKELIDEEGWL 420
QY 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
DB 421 HTGDIGYDDEKHEFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPVAG 480
QY 481 ELPGAVVLLKKGSKMTEKEVMDIVASQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVLLSGGKMTKEVMDIVASQVSNAKELRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKXPVAKM 548
DB 541 LKXPVAKM 548

RESULT 18

US-09-396-154-27
; Sequence 27, Application US/09396154
; Patent No. 6602677
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/09/396,154
; CURRENT FILING DATE: 1999-09-15
; EARLIER APPLICATION NUMBER: US 09/156,946
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: PCT/US98/19494
; EARLIER FILING DATE: 1998-09-18
; EARLIER APPLICATION NUMBER: US 60/059,379
; EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO: 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola cruciata
US-09-396-154-27

Query Match 95.1%; Score 2684; DB 4; Length 548;
Best Local Similarity 93.4%; Pred. No. 5.5e-275;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

1 MENMENDENIVVGPFPYIEEGSAGTQLRKMYERAKLGAFTNAVTVGVDSYAEYLE 60
61 KSCCLGEALKNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGVQSMDFIKKNTPOGFGK 180
121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGVQSMDFIKKNTPOGFGK 180
181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNQVSPGTA 240
181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNQVSPGTA 240
241 TVPFFHGGFMTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
241 TVPFFHGGFMTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVQGYGLTETTSAILITPEGDDK 360
301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVQGYGLTETTSAILITPEGDDK 360
361 PGASGKVPLPKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL 420
361 PGASGKVPLPKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL 420
421 HTGDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPVAG 480
421 HTGDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPVAG 480
481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
541 LKPPVAKM 548
541 LKPPVAKM 548

RESULT 19

US-08-487-183A-12
; Sequence 12, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Scanlon, William J.

REGISTRATION NUMBER: 31,136
REFERENCE/DOCKET NUMBER: 19017/166
TELECOMMUNICATION INFORMATION:
TELEPHONE: (608)258-5035
TELEFAX: (608)258-4258
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: amino acids
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-487-183A-12

Query Match 94.8%; Score 2675; DB 4; Length 548;

Best Local Similarity 93.1%; Pred. No. 4.9e-274;
Matches 510; Conservative 27; Mismatches 11; Indels 0; Gaps 0;

QY 1 MENMENDENIVVGPFPYIEEGSAGTQLRKMYERAKLGAFTNAVTVGVDSYAEYLE 60
DB 1 MENMENDENIVVGPFPYIEEGSAGTQLRKMYERAKLGAFTNAVTVGVDSYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGVQSMDFIKKNTPOGFGK 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGVQSMDFIKKNTPOGFGK 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNQVSPGTA 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNQVSPGTA 240
QY 241 TVPFFHGGFMTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
DB 241 TVPFFHGGFMTTLGYLTCGFRVWMLTKFDEETFLKTDYKCTSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVQGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVQGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVPLPKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL 420
DB 361 PGASGKVPLPKAKVIDLTKTLGNRRGEVCVKGPMKMGYVNDPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPVAG 480
DB 421 HTGDIGYDEEKHFFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPVAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKPPVAKM 548
DB 541 LKPPVAKM 548

RESULT 20

US-09-111-752-7
; Sequence 7, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: KAJIYAMA, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400

```

; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 7:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
; US-09-111-752-7

Query Match 91.7%; Score 2590; DB 3; Length 552;
Best Local Similarity 91.0%; Pred. No. 5e-265;
Matches 494; Conservative 31; Mismatches 18; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEESGAGQRLKRYMDRYAKLGAIAFTNAVTGVDYTAAYLE 60
DB 1 MENMENDENIVGPKFPYPIEESGAGTQLRKMYERYAKLGAIAFTNAVTGVDYTAAYLE 60
QY 61 KSCCLGALKNYGLVVDGRALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
DB 61 KSCCLGALKNYGLVVDGRALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQCLDTFIKNTPPGFOA 180
QY 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNVSPGTAIL 240
DB 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELIDKVDLSNLVRIASGAPLSKEIGENAVRRNLPGVRQGYCLTETTSAILITPEGDDK 360
DB 301 ELIDKVDLSNLVRIASGAPLSKEIGENAVRRNLPGVRQGYCLTETTSAILITPEGDDK 360
QY 361 PGAGSKVVPFLFKAVIDLDTKTLGNRRGEVGVKGPMLKMGVYNDPEATREIIDEAGWL 420
DB 361 PGAGSKVVPFLFKAVIDLDTKTLGNRRGEVGVKGPMLKMGVYNDPEATREIIDEAGWL 420
QY 421 HTGDIGYDEKHFIVDRKLSLKYKGVQVPAELESVILQHPNIFDAGVAGVDDPIAG 480
DB 421 HTGDIGYDEKHFIVDRKLSLKYKGVQVPAELESVILQHPNIFDAGVAGVDDPIAG 480
QY 481 ELCPAVVVLKKGSMTEKEVMDVAVSQVSNKELRGVVFVDEVPKGLTCKIDGKAIRI 540
DB 481 ELCPAVVVLKKGSMTEKEVMDVAVSQVSNKELRGVVFVDEVPKGLTCKIDGKAIRI 540
QY 541 LKK 543

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DB 541 LKK 543

RESULT 21
US-09-111-752-5
; Sequence 5, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAOKI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 5:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 552 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata and Phontinus pyralis
; US-09-111-752-5

Query Match 84.8%; Score 2394; DB 3; Length 552;
Best Local Similarity 82.9%; Pred. No. 2.9e-244;
Matches 450; Conservative 54; Mismatches 39; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEESGAGQRLKRYMDRYAKLGAIAFTNAVTGVDYTAAYLE 60
DB 1 MENMENDENIVGPKFPYPIEESGAGTQLRKMYERYAKLGAIAFTNAVTGVDYTAAYLE 60
QY 61 KSCCLGALKNYGLVVDGRALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
DB 61 KSCCLGALKNYGLVVDGRALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYQCLDTFIKNTPPGFOA 180
QY 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNVSPGTAIL 240
DB 181 SSFKEVVRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 541 LKK 543

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QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPQVRQGYGLTETTSAILIITPBGDDK 360
Db 301 TLIDKYDLSNLVEIASGGAPLSKEVGEAVAKRPHLPQVRQGYGLTETTSAILIITPBGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWL 420
Db 361 PGAVGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWL 420
QY 421 HTGDIYDEDEKHEFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HSGDIAWDEDEHFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVLLKKGKSMTEKEVMDYVASQVSNKALRGVRFVDPVKGLTGKIDGKAIREI 540
Db 481 ELPAVVVLLKKGKSMTEKEIYDVVASQVTTAKKLGQVVFVDPVKGLTGKIDGKAIREI 540
QY 541 LKK 543
Db 541 LK 543

RESULT 22
US-09-380-061B-18
; Sequence 18, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRELL, DAVID JAMES
; WHITE, PETER JOHN
; LOWE, CHRISTOPHER ROBIN
; MURRAY, JAMES AUGUSTUS HENRY
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25 (BPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/380,061B
; FILING DATE: 25-Aug-1999
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 18:

Query Match 82.7%; Score 2335.5; DB 3; Length 548;
Best Local Similarity 81.7%; Pred. No. 4.4e-238;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIVYGPPEFYPIIEEGSAGALRKYMDRYAKLGAIAFTNALTGVDVYTYABYLEKSC 63
Db 3 MEKENVYGPPLFPFYPIIEEGSAGALRKYMDRYAKLGAIAFTNALTGVDVYTYABYLEKSC 62
QY 64 CLGERALKYGLVDRORIALCSENECEEFIPVLAGLFIQGVAPNEIYTLRELHSLGIS 123
Db 63 RLAEAMKQFGMKPBEHIALCSENECEEFIPVLAGLFIQGVAPNEIYTLRELHSLGIS 122
QY 124 KPTIVFSKGLDKDVIYVQKTWTATKTVILDSKVDRGYQSDMNFIKNTPOQFGKGSF 183
Db 123 OPTIVFSRKGKPLKVLQVQKTWTATKTVILDSKVDRGYQSDMNFIKNTPOQFGKGSF 182
QY 184 KTVEV-NRKEQVALIMNSSSGTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242
Db 183 VPIDVKNRKHQHVALLIMNSSSGTGLPKGVRI THEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
QY 243 VPFFHGFQMTTGLYLTGCFRIVMLTKFDEETELKTLQDYKCSSVILVPTLFAILNSEL 302
Db 243 VPFFHGFQMTTGLYLTGCFRIVMLTKFDEETELKTLQDYKCSSVILVPTLFAILNSEL 302
QY 303 LDYDLSNLVEIASGGAPLSKEIGEAVARRFNLPQVRQGYGLTETTSAILIITPBGDDKPG 362
Db 303 IDKFDLSNLVEIASGGAPLSKEIGEAVARRFNLPQVRQGYGLTETTSAILIITPBGDDKPG 362
QY 363 ASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWLHT 422
Db 363 ASGVVPLFKAKVIDLDTKTLGNRRGEVCKGPMKMGVYDNPBTRILIDEGWLHT 422
QY 423 GDIGYDEDEKHEFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
Db 423 GDIGYDEDEHFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGEL 482
QY 483 PGAVVLLKKGKSMTEKEVMDYVASQVSNKALRGVRFVDPVKGLTGKIDGKAIREILK 542
Db 483 PGAVVLLKKGKSMTEKEIYDVVASQVSNKALRGVRFVDPVKGLTGKIDGKAIREILK 542
QY 543 KPVAKM 548
Db 543 KPVAKM 548

RESULT 23
US-08-487-183A-16
; Sequence 16, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:

NAME: Scanlon, William J.
 REGISTRATION NUMBER: 31,136
 REFERENCE/DOCKET NUMBER: 19017/166
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (608)258-5035
 TELEFAX: (608)258-4258
 INFORMATION FOR SEQ ID NO: 16:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 548 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 US-08-487-183A-16

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4.4e-238;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPPYPIEESGAGQRLKYMDRVAKLGAIATFTNALTGVDTVAEYLEKSC 63
 Db 3 MEKEENVVYGLPFPYPIEESGAGIQLHKYMQVAKLGAIAFSAFNALGVDSIQEYFDITC 62
 QY 64 CLGEALKNYGLVVDGRIALSCENCEEFFIPVLAGLFIGVGVAPTNIETLRELVHSLGIS 123
 Db 63 RLAEAMKNGKMPKEEHIALSCENCEEFFIPVLAGLYIGVAVAPTNIETLRELNHSLGIA 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKGSSF 183
 Db 123 OPTIVFSSRKGLPKLVQKTVTCIKIVILDSKVNFGGDCMETFIKKHVELGFPQSSF 182
 QY 184 KTVEV-NRKEQVALIMNSSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLNMSSSGSTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
 QY 243 VPFHFGMTTGLYTCGPRIWMLTKFDEETFLKTDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHFGMTTGLYFACGYRVVMLTKFDEELFRLTDYKCTSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVETIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLVETIASGGAPLAKEVGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 QY 363 ASGVVPLFKAKVIDLDTKKTGLGNRRGEVCVKGPMKMGVYDNPATREIIDEGWLHT 422
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 Db 423 GDIGYDEDEHFFIVDLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPDAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMDYVASOVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKMTKEKIVDYVNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542
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 Db 543 KPOAKM 548

RESULT 24

US-09-396-154-29
 ; Sequence 29, Application US/09396154
 ; Patent No. 6602677
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/09/396,154
 ; EARLIER FILING DATE: 1999-09-15
 ; EARLIER APPLICATION NUMBER: US 09/156,946
 ; EARLIER FILING DATE: 1998-09-18

NAME: Scanlon, William J.
 REGISTRATION NUMBER: 31,136
 REFERENCE/DOCKET NUMBER: 19017/166
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (608)258-5035
 TELEFAX: (608)258-4258
 INFORMATION FOR SEQ ID NO: 16:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 548
 TYPE: PRT
 ORGANISM: Luciola mingrellica
 US-09-396-154-29

Query Match 82.7%; Score 2335.5; DB 4; Length 548;
 Best Local Similarity 81.7%; Pred. No. 4.4e-238;
 Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPPYPIEESGAGQRLKYMDRVAKLGAIATFTNALTGVDTVAEYLEKSC 63
 Db 3 MEKEENVVYGLPFPYPIEESGAGIQLHKYMQVAKLGAIAFSAFNALGVDSIQEYFDITC 62
 QY 64 CLGEALKNYGLVVDGRIALSCENCEEFFIPVLAGLFIGVGVAPTNIETLRELVHSLGIS 123
 Db 63 RLAEAMKNGKMPKEEHIALSCENCEEFFIPVLAGLYIGVAVAPTNIETLRELNHSLGIA 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKGSSF 183
 Db 123 OPTIVFSSRKGLPKLVQKTVTCIKIVILDSKVNFGGDCMETFIKKHVELGFPQSSF 182
 QY 184 KTVEV-NRKEQVALIMNSSSGSTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242
 Db 183 VPIDVKNRKQHVALLNMSSSGSTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
 QY 243 VPFHFGMTTGLYTCGPRIWMLTKFDEETFLKTDYKCSSVILVPTLFAILNRSEL 302
 Db 243 VPFHFGMTTGLYFACGYRVVMLTKFDEELFRLTDYKCTSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVETIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLVETIASGGAPLAKEVGEAVARFNLPGVRQGYGLTETTSALITPEGDDKPG 362
 QY 363 ASGVVPLFKAKVIDLDTKKTGLGNRRGEVCVKGPMKMGVYDNPATREIIDEGWLHT 422
 Db 363 ASGVVPLFKAKVIDLDTKKTGLGNRRGEICVKGPSMLGLYSNNPEATREIIDEGWLHT 422
 QY 423 GDIGYDEDEHFFIVDLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPDAGEL 482
 Db 423 GDIGYDEDEHFFIVDLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPDAGEL 482
 QY 483 PGAVVVLKKGKSMTEKEVMDYVASOVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
 Db 483 PGAVVVMKKGKMTKEKIVDYVNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542
 QY 543 KPVAKM 548
 Db 543 KPOAKM 548

RESULT 25

US-09-380-061B-20
 ; Sequence 20, Application US/09380061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; LOWE, CHRISTOPHER ROBIN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: NIXON & VANDERHYE P.C.
 ; STREET: 1100 NORTH GLEBE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA

[illegible]

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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:17:14 ; Search time 41 Seconds
(without alignments)
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Title: US-09-581-241a-6

Perfect score: 2823

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Total number of hits satisfying chosen parameters: 1288442

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

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Published Applications AA:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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5	2335.5	82.7	548	10	US-09-838-469-29
6	2335.5	82.7	548	15	US-10-378-168-29
7	1967.5	69.7	547	10	US-09-838-469-32
8	1967.5	69.7	547	15	US-10-378-168-32
9	1956.5	69.3	975	12	US-10-072-012-329
10	1951.5	69.1	895	14	US-10-348-074-47
11	1945.5	68.9	550	10	US-09-838-469-31
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23	1710.5	60.6	544	15	US-10-378-168-45
24	1710.5	60.6	544	16	US-10-655-878-2
25	1710.5	60.6	544	16	US-10-655-878-4
26	1706.5	60.4	544	10	US-09-813-2793-3
27	1706.5	60.4	544	15	US-10-378-168-44
28	1706.5	60.4	544	16	US-10-655-878-3
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46	1639.5	58.1	546	10	US-09-838-469-14
47	1639.5	58.1	546	10	US-09-838-469-17
48	1638.5	58.0	544	15	US-10-378-168-14
49	1638.5	58.0	545	15	US-10-378-168-25
50	1633.5	57.9	544	15	US-10-378-168-16
51	1633.5	57.9	546	10	US-09-838-469-16
52	1632.5	57.8	547	10	US-09-838-469-25
53	1630.5	57.8	545	15	US-10-378-168-37
54	1513.5	53.6	581	10	US-09-838-469-37
55	1457.5	51.6	545	9	US-09-993-874-2
56	1389	49.2	546	14	US-10-223-072-2
57	1389	49.2	546	14	US-10-223-072-4
58	1385	49.1	545	10	US-09-838-469-34
59	1385	49.1	546	15	US-10-378-168-34
60	1367	48.4	542	15	US-10-378-168-47
61	1367	48.4	543	10	US-09-838-469-36
62	1367	48.4	543	15	US-10-378-168-36
63	1365	48.4	544	10	US-09-838-469-26
64	1356	48.0	542	15	US-10-378-168-26
65	1356	48.0	543	10	US-09-838-469-35
66	1356	48.0	543	15	US-10-378-168-35
67	1332	47.2	546	9	US-09-993-874-4
68	767	27.2	546	12	US-10-424-599-222072
69	767	27.2	553	12	US-10-425-114-36657
70	763	27.0	510	15	US-10-369-493-20140
71	761	27.0	506	12	US-10-425-114-55457
72	741	26.2	540	12	US-10-424-599-282926
73	738	26.1	547	12	US-10-424-599-152745
74	733	26.0	548	12	US-10-424-599-245106
75	733	26.0	534	12	US-10-424-599-239763
76	732.5	25.9	535	9	US-09-947-027-10
77	732.5	25.9	535	13	US-10-091-009-10
78	732.5	25.9	535	14	US-10-184-385-2
79	729.5	25.8	561	16	US-10-437-963-105422
80	727	25.8	569	12	US-10-424-599-237811
81	724.5	25.7	575	14	US-10-361-460-3
82	723.5	25.6	540	9	US-09-796-2564-8
83	721.5	25.6	544	14	US-10-174-693-349
84	720	25.5	544	15	US-10-369-493-6433
85	714.5	25.3	526	15	US-10-369-493-12596
86	713	25.3	570	14	US-10-184-385-4
87	712	25.2	524	14	US-10-156-761-11398
88	710	25.2	539	16	US-10-437-963-133157

89 702 24.9 559 14 US-10-289-757-90 Sequence 90, Appl
90 700 24.8 470 12 US-10-425-114-48996 Sequence 48996, A
91 697 24.7 539 14 US-10-289-757-91 Sequence 91, Appl
92 696.5 24.7 555 16 US-10-437-963-196091 Sequence 196091,
93 695.5 24.6 575 14 US-10-174-693-407 Sequence 407, App
94 695 24.6 601 12 US-10-425-114-69253 Sequence 69253, A
95 694 24.6 555 14 US-10-361-460-2 Sequence 2, Appli
96 693.5 24.6 571 16 US-10-437-963-102985 Sequence 102985,
97 685 24.3 551 14 US-10-174-693-348 Sequence 348, App
98 679.5 24.1 565 16 US-10-437-963-140091 Sequence 140091,
99 673 23.8 539 14 US-10-289-757-89 Sequence 89, Appl
100 669 23.7 555 16 US-10-437-963-166762 Sequence 166762,

ALIGNMENTS

RESULT 1
US-09-838-469-28
; Sequence 28, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-28

Query Match 99.4%; Score 2805; DB 10; Length 548;
Best Local Similarity 99.3%; Pred. No. 1.7e-263;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 MENMENDENIVGPEPPYPIEESGAGALRKYMRYAKLGAIAFTNALTGVDTYVAYLE 60
DB 1 MENMENDENIVGPEPPYPIEESGAGALRKYMRYAKLGAIAFTNALTGVDTYVAYLE 60
QY 61 KSCCLGEALKNYGLVVDGRALCSECEFFIPVLAGLFIGVGVPNTNIEYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRALCSECEFFIPVLAGLFIGVGVPNTNIEYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQSMNFIKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQSMNFIKNTPOGFKG 180
QY 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAIL 240
DB 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAIL 240
QY 241 TVVPFHFGMFTTLYLTCGFRIVMLTKPDEBFTFLTKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHFGMFTTLYLTCGFRIVMLTKPDEBFTFLTKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVPFLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVPFLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEBEKFFIVDRKLSLIKYGQVPPAELESVLLQHNIFDAGVAGVDPPIAG 480

DB 421 HTGDIGYDEBEKFFIVDRKLSLIKYGQVPPAELESVLLQHNIFDAGVAGVDPPIAG 480
QY 481 ELPQAVVVLKKGKMTKEVMDYVASQVSNAKRLRGGRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPQAVVVLKKGKMTKEVMDYVASQVSNAKRLRGGRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548
RESULT 2
US-10-378-168-28
; Sequence 28, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-10-378-168-28

Query Match 99.4%; Score 2805; DB 15; Length 548;
Best Local Similarity 99.3%; Pred. No. 1.7e-263;
Matches 544; Conservative 1; Mismatches 3; Indels 0; Gaps 0;
QY 1 MENMENDENIVGPEPPYPIEESGAGALRKYMRYAKLGAIAFTNALTGVDTYVAYLE 60
DB 1 MENMENDENIVGPEPPYPIEESGAGALRKYMRYAKLGAIAFTNALTGVDTYVAYLE 60
QY 61 KSCCLGEALKNYGLVVDGRALCSECEFFIPVLAGLFIGVGVPNTNIEYTLRELHSL 120
DB 61 KSCCLGEALKNYGLVVDGRALCSECEFFIPVLAGLFIGVGVPNTNIEYTLRELHSL 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQSMNFIKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVTAITIVILDSKVDYRGYQSMNFIKNTPOGFKG 180
QY 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAIL 240
DB 181 SSFKTVENRKEQVALIMNSSGSTGLPKGVQLTHENIVTRFSHARDDPIYGNVSPGTAIL 240
QY 241 TVVPFHFGMFTTLYLTCGFRIVMLTKPDEBFTFLTKLDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHFGMFTTLYLTCGFRIVMLTKPDEBFTFLTKLDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLNLVEIASGGAPLSKEIGAVARRNLPGVQGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVPFLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVPFLFKAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
QY 421 HTGDIGYDEBEKFFIVDRKLSLIKYGQVPPAELESVLLQHNIFDAGVAGVDPPIAG 480

Db 421 HTGDI GYDDEKHFHFDRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 3

US-09-838-469-27
; Sequence 27, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: PROMEGA CORPORATION
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.00GUS1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-27

Query Match 95.1%; Score 2684; DB 10; Length 548;
Best Local Similarity 93.4%; Pred. No. 1e-251;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFPIEBSAGAQLRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
Db 1 MENMENDENIVGPKPFPIEBSAGTQLRKYERYAKLGAIAFTNAVTVGVDYSYAEYLE 60
QY 61 KSCCLGKALQNYGLVWDGRIALCSECEEFFIPVLAGLFGVGVAPTNEIYTLRELHVS 120
Db 61 KSCCLGKALQNYGLVWDGRIALCSECEEFFIPVLAGLFGVGVAPTNEIYTLRELHVS 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAV 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAV 240
QY 241 TVPFFHGFMTTLGTLTGCGFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTLGTLTGCGFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVALRRFNLPGVRQGYGLTETTSALITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVALRRFNLPGVRQGYGLTETTSALITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCKGPMKMGVYNNPEATKEIIDEGBWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCKGPMKMGVYNNPEATKEIIDEGBWL 420
QY 421 HTGDI GYDDEKHFHFDRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDI GYDDEKHFHFDRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

RESULT 4

US-10-378-168-27
; Sequence 27, Application US/10378168
; Publication No. US2003023240A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF
; TITLE OF INVENTION: PRODUCTION
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US88/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola cruciata
US-10-378-168-27

Query Match 95.1%; Score 2684; DB 15; Length 548;
Best Local Similarity 93.4%; Pred. No. 1e-251;
Matches 512; Conservative 26; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPFPIEBSAGAQLRKYMDRYAKLGAIAFTNALTGVDYTYAEYLE 60
Db 1 MENMENDENIVGPKPFPIEBSAGTQLRKYERYAKLGAIAFTNAVTVGVDYSYAEYLE 60
QY 61 KSCCLGKALQNYGLVWDGRIALCSECEEFFIPVLAGLFGVGVAPTNEIYTLRELHVS 120
Db 61 KSCCLGKALQNYGLVWDGRIALCSECEEFFIPVLAGLFGVGVAPTNEIYTLRELHVS 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPPGFG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAV 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHTENIVTRFSHARDPIYGNQVSPGTAV 240
QY 241 TVPFFHGFMTTLGTLTGCGFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTLGTLTGCGFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVALRRFNLPGVRQGYGLTETTSALITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVALRRFNLPGVRQGYGLTETTSALITPEGDDK 360
QY 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCKGPMKMGVYNNPEATKEIIDEGBWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTKLGNRRGEVCKGPMKMGVYNNPEATKEIIDEGBWL 420
QY 421 HTGDI GYDDEKHFHFDRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDI GYDDEKHFHFDRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPAGVAVVLLKKGKSMTEKEVMDYVASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

QY 541 LKXPVAKM 548
|||||
Db 541 LKXPVAKM 548

RESULT 5

US-09-838-469-29
; Sequence 29, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT FILING DATE: 2001-04-19
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US/09/156,946
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn ver. 2.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-29

Query Match 82.7%; Score 2335.5; DB 10; Length 548;
Best Local Similarity 81.7%; Pred. No. 8.2e-218;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIVYGPPEFYPIEESAGALRYKMDRYAKLGAFTNALTGVDTYAEYLEKSC 63
Db 3 MEKENVYVGLPFYPIEESAGIQLHKYMHQYAKLGAFTNALTGVDTISQYEDITC 62

QY 64 CLGALKNYGLVVDGRIALSCNCEBFFIPVLAGLFGVGVAPTNFYTLRELVHSLGS 123
Db 63 RLAEAMKNFGKPEEHALSCNCEBFFIPVLAGLYGVAVAPTNFYTLRELHSLGIA 122

QY 124 KPTIVFSSKGLDKVITVQKTVTAITVILDSKVYRGVQSMDFIKNTQGEKGSF 183
Db 123 OPTIVFSSRGLPKVLEVQKTVTCIKKIVILDSKNVFGHDCMETFIKKGVELGFQPSF 182

QY 184 KTVEV-NRKEQVALIMNSGSGTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTALT 242
Db 183 VPIDVKNRKQHVALLMNSGSGTGLPKGVITHEGAVTRFSHAKDPIYGNQVSPGTALT 242

QY 243 VPFHGFQMTTGLYTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSEL 302
Db 243 VPFHGFQMTTGLYFACGYRVVMLTKFDEBFLRLTDYKCTSVILVPTLFAILNKSEL 302

QY 303 LDYDLSNLVEIASGGAPLSKEICEAVARRFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362
Db 303 IDKFDLSNLTEIASGGAPLAKEVEAVARRFNLPGVRQGYGLTETTSAFIITPEGDDKPG 362

QY 363 ASGVKVPFLPAKVIDLDTKTLGNRRGEVCVKGPMLKGYVDNPEATREIIDESEWLHT 422
Db 363 ASGVKVPFLPKVIDLDTKTLGNRRGEICVKGPSLMLGYNNPEATRETIIDESEWLHT 422

QY 423 GDIGYDEEHFFIVDRLSLKYKYQVPPAELESVLLQHPNIFDAGVAGVDDPDPAGEL 482
Db 423 GDIGYDEEHFFIVDRLSLKYKYQVPPAELESVLLQHPNIFDAGVAGVDDPDPAGEL 482

QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 483 PGAVVVMKGTWTEKEIVDYVNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542

QY 543 KPVAKM 548
|||||
Db 543 KPQAKM 548

RESULT 6

US-10-378-168-29
; Sequence 29, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of

; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola mingrelia
US-10-378-168-29

Query Match 82.7%; Score 2335.5; DB 15; Length 548;
Best Local Similarity 81.7%; Pred. No. 8.2e-218;
Matches 446; Conservative 47; Mismatches 52; Indels 1; Gaps 1;

QY 4 MENDENIVYGPPEFYPIEESAGALRYKMDRYAKLGAFTNALTGVDTYAEYLEKSC 63
Db 3 MEKENVYVGLPFYPIEESAGIQLHKYMHQYAKLGAFTNALTGVDTISQYEDITC 62

QY 64 CLGALKNYGLVVDGRIALSCNCEBFFIPVLAGLFGVGVAPTNFYTLRELVHSLGS 123
Db 63 RLAEAMKNFGKPEEHALSCNCEBFFIPVLAGLYGVAVAPTNFYTLRELHSLGIA 122

QY 124 KPTIVFSSKGLDKVITVQKTVTAITVILDSKVYRGVQSMDFIKNTQGEKGSF 183
Db 123 OPTIVFSSRGLPKVLEVQKTVTCIKKIVILDSKNVFGHDCMETFIKKGVELGFQPSF 182

QY 184 KTVEV-NRKEQVALIMNSGSGTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTALT 242
Db 183 VPIDVKNRKQHVALLMNSGSGTGLPKGVITHEGAVTRFSHAKDPIYGNQVSPGTALT 242

QY 243 VPFHGFQMTTGLYTCGPRIVMLTKFDEBETFLKLDYKCSSVILVPTLFAILNRSEL 302
Db 243 VPFHGFQMTTGLYFACGYRVVMLTKFDEBFLRLTDYKCTSVILVPTLFAILNKSEL 302

QY 303 LDYDLSNLVEIASGGAPLSKEICEAVARRFNLPGVRQGYGLTETTSAILIITPEGDDKPG 362
Db 303 IDKFDLSNLTEIASGGAPLAKEVEAVARRFNLPGVRQGYGLTETTSAFIITPEGDDKPG 362

QY 363 ASGVKVPFLPAKVIDLDTKTLGNRRGEVCVKGPMLKGYVDNPEATREIIDESEWLHT 422
Db 363 ASGVKVPFLPKVIDLDTKTLGNRRGEICVKGPSLMLGYNNPEATRETIIDESEWLHT 422

QY 423 GDIGYDEEHFFIVDRLSLKYKYQVPPAELESVLLQHPNIFDAGVAGVDDPDPAGEL 482
Db 423 GDIGYDEEHFFIVDRLSLKYKYQVPPAELESVLLQHPNIFDAGVAGVDDPDPAGEL 482

QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 483 PGAVVVMKGTWTEKEIVDYVNSQVNVNHRKLRGGVRFVDEVPKGLTGKIDAKVIREILK 542

QY 543 KPVAKM 548
|||||
Db 543 KPQAKM 548

RESULT 7

US-09-838-469-32

; Sequence 32, Application US/09838469
; Publication No. US2003068801A1

; GENERAL INFORMATION:

; APPLICANT: Wood, Keith V.

; APPLICANT: Hall, Mary P.

; APPLICANT: Promega Corporation

; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

; FILE REFERENCE: 341.006US1

; CURRENT APPLICATION NUMBER: US/09/838,469

; PRIOR FILING DATE: 2001-04-19

; PRIOR APPLICATION NUMBER: US/09/156,946

; PRIOR FILING DATE: 1998-09-18

; NUMBER OF SEQ ID NOS: 41

; SOFTWARE: Patentin Ver. 2.0

; SEQ ID NO 32

; LENGTH: 547

; TYPE: PRT

; ORGANISM: Beetle

US-09-838-469-32

Query Match 69.7%; Score 1967.5; DB 10; Length 547;

Best Local Similarity 69.0%; Pred. No. 5.3e-182;

Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY 4 MENDENIVGPPPIPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDVYAEYLEKS 62

DB 1 MEDAKNMGHPAPPFPLEDGTAGEQJHKAMKRYAQVPGTIAFTDAHAEVNTIYSYFEMA 60

QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122

DB 61 CRLAETMKRYGLQGHIAVCSSENSLOFFPMPVCGALFIGVGVASTNDIYNERELYNLSI 120

QY 123 SKPTIVFSSKKGLDKVITVQKTTAIVTILDSKVDYGYQSDMNFIKKNTPOGFKGSS 182

DB 121 SQPTIVSCSKRALQKILGVQKLPPIQKIVILDSREDYMGKQSMYSFIESHLPAGFNEYD 180

QY 183 FKTVEVNRKQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242

DB 181 YIPDSFRETATALIMNSSGSTGLPKGVOLTHQNCVRFHCHCRDPVFGNQIIPDTAILTV 240

QY 243 VPFHFGFMFTLLGYLTCGFRIVMLTKDEETFLKTDYKSSVILVPTLFAILNRSEL 302

DB 241 IPFHFGFMFTLLGYLTCGFRIVMLYRFEELFLRSLOQYKIQSALLVPTLFSFAKSTL 300

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAARFNLPGRVQGYGLTETTSALIIITPEGDDKPG 362

DB 301 VKYDLSNLHEIASGGAPLAKEGEAVAKRFLKPGIRQGYGLTETTSALIIITPEGDDKPG 360

QY 363 ASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKGYVDNPEATREIIDEGLWHT 422

DB 361 ACQKVVPFSAKIVDLDGTGLVNGRQGLCVKGPIMKGYVNNPEATREIIDEGLWHT 420

QY 423 GDIGYVDEEKHFFIVDRKSLIKYKGYQVPPAELESVILLOHNPFDAGVAGVDPDPIAGEL 482

DB 421 GDIAAYDKDGHFFIVDRKSLIKYKGYQVPPAELESVILLOHNPFDAGVAGVDPDPIAGEL 480

QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541

DB 481 PRAVVVLEEGKMTQEVMYVAGQVTASKRLRGVRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 8

US-10-378-168-32

; Sequence 32, Application US/10378168

; Publication No. US2003023240A1

; GENERAL INFORMATION:

; APPLICANT: Wood, Keith V.

; APPLICANT: Hall, Mary P.

; TITLE OF INVENTION: Thermostable luciferases and methods of

; production

; FILE REFERENCE: 341.012US1

; CURRENT APPLICATION NUMBER: US/10/378,168

; CURRENT FILING DATE: 2003-02-28

; PRIOR APPLICATION NUMBER: US/09/396,154

; PRIOR FILING DATE: 1999-09-15

; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1997-09-19

; NUMBER OF SEQ ID NOS: 93

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 32

; LENGTH: 547

; TYPE: PRT

; ORGANISM: Lampyris noctiluca

US-10-378-168-32

Query Match 69.7%; Score 1967.5; DB 15; Length 547;

Best Local Similarity 69.0%; Pred. No. 5.3e-182;

Matches 372; Conservative 76; Mismatches 90; Indels 1; Gaps 1;

QY 4 MENDENIVGPPPIPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDVYAEYLEKS 62

DB 1 MEDAKNMGHPAPPFPLEDGTAGEQJHKAMKRYAQVPGTIAFTDAHAEVNTIYSYFEMA 60

QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122

DB 61 CRLAETMKRYGLQGHIAVCSSENSLOFFPMPVCGALFIGVGVASTNDIYNERELYNLSI 120

QY 123 SKPTIVFSSKKGLDKVITVQKTTAIVTILDSKVDYGYQSDMNFIKKNTPOGFKGSS 182

DB 121 SQPTIVSCSKRALQKILGVQKLPPIQKIVILDSREDYMGKQSMYSFIESHLPAGFNEYD 180

QY 183 FKTVEVNRKQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAILTV 242

DB 181 YIPDSFRETATALIMNSSGSTGLPKGVOLTHQNCVRFHCHCRDPVFGNQIIPDTAILTV 240

QY 243 VPFHFGFMFTLLGYLTCGFRIVMLTKDEETFLKTDYKSSVILVPTLFAILNRSEL 302

DB 241 IPFHFGFMFTLLGYLTCGFRIVMLYRFEELFLRSLOQYKIQSALLVPTLFSFAKSTL 300

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAARFNLPGRVQGYGLTETTSALIIITPEGDDKPG 362

DB 301 VKYDLSNLHEIASGGAPLAKEGEAVAKRFLKPGIRQGYGLTETTSALIIITPEGDDKPG 360

QY 363 ASGVVPLFKAKVIDLDTKTLGPNRRGEVCKGPMKGYVDNPEATREIIDEGLWHT 422

DB 361 ACQKVVPFSAKIVDLDGTGLVNGRQGLCVKGPIMKGYVNNPEATREIIDEGLWHT 420

QY 423 GDIGYVDEEKHFFIVDRKSLIKYKGYQVPPAELESVILLOHNPFDAGVAGVDPDPIAGEL 482

DB 421 GDIAAYDKDGHFFIVDRKSLIKYKGYQVPPAELESVILLOHNPFDAGVAGVDPDPIAGEL 480

QY 483 PGAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541

DB 481 PRAVVVLEEGKMTQEVMYVAGQVTASKRLRGVRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 9

US-10-072-012-329

; Sequence 329, Application US/10072012

; Publication No. US20040033493A1

; GENERAL INFORMATION:

; APPLICANT: Tchernev, Velizar

; APPLICANT: Spytek, Kimberly

; APPLICANT: Zerhusen, Bryan

; APPLICANT: Patturajan, Meera

; APPLICANT: Shimkets, Richard

; APPLICANT: Li, Li

; APPLICANT: Gangolli, Esha

; APPLICANT: Padigaru, Muralidhara

; APPLICANT: Anderson, David W.

; APPLICANT: Rastelli, Luca

APPLICANT: Miller, Charles E.
APPLICANT: Gerlach, Valerie
APPLICANT: Taupier Jr, Raymond J.
APPLICANT: Gusev, Vladimir Y.
APPLICANT: Colman, Steven D.
APPLICANT: Wolenc, Adam R.
APPLICANT: Pena, Carol E. A
APPLICANT: Furtak, Katarzyna
APPLICANT: Grosse, William M.
APPLICANT: Alsobrook II, John P.
APPLICANT: Lepley, Denise M.
APPLICANT: Rieger, Daniel K.
APPLICANT: Burgess, Catherine E.
TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
FILE REFERENCE: 21402-258
CURRENT APPLICATION NUMBER: US/10/072,012
CURRENT FILING DATE: 2002-01-31
PRIOR APPLICATION NUMBER: 60/265,102
PRIOR FILING DATE: 2001-01-30
PRIOR APPLICATION NUMBER: 60/265,514
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,517
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,412
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/265,395
PRIOR FILING DATE: 2001-01-31
PRIOR APPLICATION NUMBER: 60/266,406
PRIOR FILING DATE: 2001-02-02
PRIOR APPLICATION NUMBER: 60/266,767
PRIOR FILING DATE: 2001-02-05
PRIOR APPLICATION NUMBER: 60/267,057
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/266,975
PRIOR FILING DATE: 2001-02-07
PRIOR APPLICATION NUMBER: 60/267,459
PRIOR FILING DATE: 2001-02-08
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 1391
SOFTWARE: PatentIn Ver. 2.1
SEQ ID NO 329
LENGTH: 975
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Description of Artificial Sequence: Synthetic Construct
US-10-072-012-329

Query Match 69.3%; Score 1956.5; DB 12; Length 975;
Best Local Similarity 68.6%; Pred. No. 1.6e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;
QY 4 MENDENIVGPPFPYPIEGSAGALRKYMDRYAKL-GAIAETNALTGVDYTYAEYLEKS 62
DB 426 MEDAKNIKGPPAPFPYPIEGSAGALRKYMDRYAKL-GAIAETNALTGVDYTYAEYLEKS 62
QY 63 CCLGEALKNYGLVVDGRIALCSENCEFFPIPVLAGLFIGVGVAPTNIEYTLRELVHSLGI 122
DB 486 VRLAEAMKRYGLNTNHRIVVCSSENSIQFPMVPLGALFIGVAVAPANDIYNRELLNSMWI 545
QY 123 SKPTIVFSSKGLDKVITVQKTTAIVTILDSKVDYRGYQSMDFIKKNTPOQFGKSS 182
DB 546 SQPTVTVFVSKGGLQILNVQKLPPIQKIIIMDSKTDYQGFQSMYTFVTSHPGNEFD 605
QY 183 FKTVEVNRKEQVALINWSSGSLGPKGVOLTHENIVTREFSHARDPIYGNQVSPGTAITLV 242
DB 606 FVPESEFDRKTIALLINWSSGSLGPKGVOLTHENIVTREFSHARDPIYGNQVSPGTAITLV 242
QY 243 VPPHFGFMTTLGYLTCGFRIVMLTKPDEETFLKTDQKSSVILVPTLPAINRSEL 302
DB 666 VPPHFGFMTTLGYLTCGFRIVMLTKPDEETFLKTDQKSSVILVPTLPAINRSEL 302

QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVQRGYGLTETTSAILITPEGDDKPG 362
DB 726 IDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVQRGYGLTETTSAILITPEGDDKPG 785
QY 363 ASGVVPLFAKVIDLTKTLGNRRGEVVCVGMKGYVNDPENTREIIEEGLWHT 422
DB 786 AVGVVPLFAKVIDLTKTLGNRRGEVVCVGMKGYVNDPENTREIIEEGLWHT 422
QY 423 GDIGYDEEKHFIVDRKLSLIIKYGYVPPAELESVLLQHPNIFDAGVAGVDPDTAGEL 482
DB 846 GDIAWDEDEHFFIVDRKLSLIIKYGYVPPAELESVLLQHPNIFDAGVAGVDPDTAGEL 905
QY 483 PGAVVILKKGKSMTEKEMVYASQVSNARLGRGVRFVDEVKGLTKIDGKAIRILK 542
DB 906 PAAVVVLEHKGKSMTEKEMVYASQVSNARLGRGVRFVDEVKGLTKIDGKAIRILK 542
QY 543 K 543
DB 966 K 966
RESULT 10
US-10-348-074-47
Sequence 47, Application US/10348074
Publication No. US20030176386A1
GENERAL INFORMATION:
APPLICANT: Morphotek Inc.
APPLICANT: Grasso, Luigi
APPLICANT: Kline, J. Bradford
APPLICANT: Nicolaides, Nicholas C.
APPLICANT: Sass, Philip M.
TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
TITLE OF INVENTION: Regulation and Analysis
FILE REFERENCE: MG0003 US (MOR-0140)
CURRENT APPLICATION NUMBER: US/10/348,074
CURRENT FILING DATE: 2003-01-17
PRIOR APPLICATION NUMBER: 60/349,565
PRIOR FILING DATE: 2002-01-18
NUMBER OF SEQ ID NOS: 47
SOFTWARE: PatentIn version 3.2
SEQ ID NO 47
LENGTH: 895
TYPE: PRT
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Chimera: Luc from Photinus pyralis; HYG from Escherichia coli
US-10-348-074-47

Query Match 69.1%; Score 1951.5; DB 14; Length 895;
Best Local Similarity 68.3%; Pred. No. 4.3e-180;
Matches 370; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
QY 3 NMENDENIVGPPFPYPIEGSAGALRKYMDRYAKL-GAIAETNALTGVDYTYAEYLEK 61
DB 345 NMEDAKNIKGPPAPFPYPIEGSAGALRKYMDRYAKL-GAIAETNALTGVDYTYAEYLEK 61
QY 62 SCCLGEALKNYGLVVDGRIALCSENCEFFPIPVLAGLFIGVGVAPTNIEYTLRELVHSLG 121
DB 405 SVRLAEAMKRYGLNTNHRIVVCSSENSIQFPMVPLGALFIGVAVAPANDIYNRELLNSMN 464
QY 122 SKPTIVFSSKGLDKVITVQKTTAIVTILDSKVDYRGYQSMDFIKKNTPOQFGKSS 191
DB 465 ISQPTVTVFVSKGGLQILNVQKLPPIQKIIIMDSKTDYQGFQSMYTFVTSHPGNEFD 524
QY 182 FKTVEVNRKEQVALINWSSGSLGPKGVOLTHENIVTREFSHARDPIYGNQVSPGTAITLV 241
DB 525 FVPESEFDRKTIALLINWSSGSLGPKGVOLTHENIVTREFSHARDPIYGNQVSPGTAITLV 241
QY 242 VPPHFGFMTTLGYLTCGFRIVMLTKPDEETFLKTDQKSSVILVPTLPAINRSEL 301
DB 585 VPPHFGFMTTLGYLTCGFRIVMLTKPDEETFLKTDQKSSVILVPTLPAINRSEL 301
QY 302 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVQRGYGLTETTSAILITPEGDDKPG 361

Db 645 LIDKYLNLHEIASGAPLSKEVAVAKRFLPGIRQGYGLTETTSAILITPEGDDRP 704
Qy 362 GASGVVPLPKAKVIDLTKTLGNRRGVECVKGMKGYVNDPEATREIIDEGLWLR 421
Db 705 GAVGVVPPFEAKVVDLTKTLGNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 764
Qy 422 TGDIGYDEEKHFIVDRILKSLIKYGYVPPAPLESVLLQHPNIFDAGVAGVDPDPIAGE 481
Db 765 SGIANWDEDEHFIIVDRILKSLIKYGYVAPAPLESILLQHPNIFDAGVAGLPDDAGE 824
Qy 482 LPGAIVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTKIDKKAIREIL 541
Db 825 LPAAVVVLHGKTMTEKEIVDYVASQVTTAKLRLGGVWFVDEVPKGLTKIDKKAIREIL 884
Qy 542 KK 543
Db 885 IK 886
RESULT 11
US-09-838-469-31
; Sequence 31, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patent In Ver. 2.0
; SEQ ID NO 31
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-31

Query Match 68.9%; Score 1945.5; DB 10; Length 550;
Best Local Similarity 68.2%; Pred. No. 7.3e-180;
Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
Qy 4 MENDENIVGPEPPYPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 1 MEDAKNIKKGPAPYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNITYAEYFEMS 60
Qy 63 CCLGEALKNVGLVVDGRIALCSENCEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
Db 61 VRLAEAMKRYGLNTHRIIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNERELLSMNI 120
Qy 123 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFGKSS 182
Db 121 SQPTVVFVSKKGLQKILNVQKLPILQIKIIMDSKTDYQGFQSMYTFVTSHPGPFNEVD 180
Qy 183 FKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENIVTRFSHARDPIYGNVSPGTAILTV 242
Db 181 FVPESEFRDKTIALIMNMSGSTGLPKGVALPHRTACVRFSHARDPIFGNQIIPDTAILSV 240
Qy 243 VPFGHFGMFTTLYGTCGFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 241 VPFGHFGMFTTLYGICGFRVIMTRFEELFLRSQDYKIQSALLVPTLFSFAKSTL 300
Qy 303 LDKYDLSNLVEIASGGAPLSKEIGAVARRFNLPGVQGYGLTETTSAILITPEGDDKPG 362
Db 301 IDKYDLSNLHEIASGAPLSKEIGAVAKRFLPGIRQGYGLTETTSAILITPEGDDKPG 360
Qy 363 ASKVVPLPKAKVIDLTKTLGNRRGVECVKGMKGYVNDPEATREIIDEGLWLR 422
Db 361 AVGVVPPFEAKVVDLTKTLGNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 420

Qy 423 GDIGYDEEKHFIVDRILKSLIKYGYVPPAPLESVLLQHPNIFDAGVAGVDPDPIAGE 482
Db 421 GDIAVWDSDEHFIIVDRILKSLIKYGYVAPAPLESILLQHPNIFDAGVAGLPDDAGE 480
Qy 483 PCAVVVLKKGKSMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTKIDKKAIREIL 542
Db 481 PAAVVVVLHGKTMTEKEIVDYVASQVTTAKLRLGGVWFVDEVPKGLTKIDKKAIREIL 540
Qy 543 K 543
Db 541 K 541
RESULT 12
US-10-348-074-34
; Sequence 34, Application US/10348074
; Publication No. US20030176386A1
; GENERAL INFORMATION:
; APPLICANT: Morphotek Inc.
; APPLICANT: Grasso, Luigi
; APPLICANT: Kline, J. Bradford
; APPLICANT: Nicolaides, Nicholas C.
; APPLICANT: Sasse, Philip M.
; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
; FILE REFERENCE: MG0003 US (MOR-0140)
; CURRENT APPLICATION NUMBER: US/10/348,074
; CURRENT FILING DATE: 2003-01-17
; PRIOR APPLICATION NUMBER: 60/349,565
; PRIOR FILING DATE: 2002-01-18
; NUMBER OF SEQ ID NOS: 47
; SOFTWARE: Patent In version 3.2
; SEQ ID NO 34
; LENGTH: 550
; TYPE: PRT
; ORGANISM: Photinus pyralis
US-10-348-074-34

Query Match 68.9%; Score 1945.5; DB 14; Length 550;
Best Local Similarity 68.2%; Pred. No. 7.3e-180;
Matches 369; Conservative 75; Mismatches 96; Indels 1; Gaps 1;
Qy 4 MENDENIVGPEPPYPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
Db 1 MEDAKNIKKGPAPYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNITYAEYFEMS 60
Qy 63 CCLGEALKNVGLVVDGRIALCSENCEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
Db 61 VRLAEAMKRYGLNTHRIIVVCSNSLQFFMPVLGALFIGVAVAPANDIYNERELLSMNI 120
Qy 123 SKPTIVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFGKSS 182
Db 121 SQPTVVFVSKKGLQKILNVQKLPILQIKIIMDSKTDYQGFQSMYTFVTSHPGPFNEVD 180
Qy 183 FKTVEVNRKEQVALIMNMSGSTGLPKGVOLTHENIVTRFSHARDPIYGNVSPGTAILTV 242
Db 181 FVPESEFRDKTIALIMNMSGSTGLPKGVALPHRTACVRFSHARDPIFGNQIIPDTAILSV 240
Qy 243 VPFGHFGMFTTLYGTCGFRIVMLTKPDEETFLKTLQDYKCSSVILVPTLFAILNRSEL 302
Db 241 VPFGHFGMFTTLYGICGFRVIMTRFEELFLRSQDYKIQSALLVPTLFSFAKSTL 300
Qy 303 LDKYDLSNLVEIASGGAPLSKEIGAVARRFNLPGVQGYGLTETTSAILITPEGDDKPG 362
Db 301 IDKYDLSNLHEIASGAPLSKEIGAVAKRFLPGIRQGYGLTETTSAILITPEGDDKPG 360
Qy 363 ASKVVPLPKAKVIDLTKTLGNRRGVECVKGMKGYVNDPEATREIIDEGLWLR 422
Db 361 AVGVVPPFEAKVVDLTKTLGNQRGELCVRGPMIMSGYVNNPEATNALIDKDWLH 420
Qy 423 GDIGYDEEKHFIVDRILKSLIKYGYVPPAPLESVLLQHPNIFDAGVAGVDPDPIAGE 482

Db 649 K 649

RESULT 15

US-09-838-469-30

Sequence 30, Application US/09838469

Publication No. US20030068801A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

APPLICANT: Promega Corporation

TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

FILE REFERENCE: 341.006US1

CURRENT APPLICATION NUMBER: US/09/838,469

PRIOR FILING DATE: 2001-04-19

PRIOR APPLICATION NUMBER: US/09/156,946

PRIOR FILING DATE: 1998-09-18

NUMBER OF SEQ ID NOS: 41

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 30

LENGTH: 548

TYPE: PRT

ORGANISM: Beetle

US-09-838-469-30

Query Match 67.0%; Score 1892; DB 10; Length 548;

Best Local Similarity 67.8%; Pred. No. 1.2e-174;

Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENIVGPEPFYPIEGSAGALRYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61

Db 1 MEDDSKHIMHGRHSILWEDGTAGEQLHKAMRYAQVPGTIAFTDAHAENVITYSEYFEM 60

QY 62 SCCLGEALKNYGLVDCRIALCSENCEEFPIVLAGLFIGVGVAFTNRIYTLRELVLHSLG 121

Db 61 SCRLAETMKRYGLGLQHHIAVCSETSLOFFMPVCGALFIGVGVAFTNDIYNERELYNLSL 120

QY 122 ISKPTIVFSSKGLDKVITVQKTTAIVTILDSKYDYGVSQMDNFKKNTPOGFKGS 181

Db 121 ISOPTIVFCSKALQKILGVQKLPVIQKIVILDSREDYNGKQSMYSFIESHLPAFNEY 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVLTTHMNVCFRSHCRDPVFGNQIIPDTALT 241

Db 181 DVIPOSFRETATALIMNSSGSTGLPKGVLTTHMNVCFRSHCRDPVFGNQIIPDTALT 240

QY 242 VVPHHGFQFTTLGYLTGCFRIVMLTKPDETFKLTQDYKSSVILVPTLFAILNRSE 301

Db 241 VIPHHVFMFTTLGYLTGCFRIVMLYRFEELFLRSQDYKIQSALLVPTLFSFFAKST 300

QY 302 LLDKYDLSNLVEIASGAPLSKEIGEAARRENLPGRVQGYGLTETTSAILIITPEGDDXP 361

Db 301 LVDKYDLSNLHEIASGAPLAKEVEGAARFPLGRVQGYGLTETTSAILIITPEGDDXP 360

QY 362 GASGVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMLMGVYDNPATREIIDEGWLH 421

Db 361 GACGVVPPFTAKIVDLDTKTLGNRGELCVKGPMLMGVYNNPEATNALIDKQGLH 420

QY 422 TGDIGYDEEKEHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 481

Db 421 SGDIAYYDKGHHFFIVDLKSLIKYGYQVPPAELESILLQHPFIFDAGVAGIPDPDAGE 480

QY 482 LPGAUVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541

Db 481 LPAUVVLEEGKQWTEQEVMDYVAGQVTSKRLRGVRFVDEVPKGLTGKIDSKRIREIL 540

RESULT 16

US-10-378-168-30

Sequence 30, Application US/10378168

Publication No. US20030232404A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

TITLE OF INVENTION: Thermostable luciferases and methods of

FILE REFERENCE: 341.012US1

CURRENT APPLICATION NUMBER: US/10/378,168

PRIOR FILING DATE: 2003-02-28

PRIOR APPLICATION NUMBER: US/09/396,154

PRIOR FILING DATE: 1999-09-15

PRIOR APPLICATION NUMBER: EARLIER FILING DATE: US 09/156,946

PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494

PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379

PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19

NUMBER OF SEQ ID NOS: 93

SOFTWARE: FastSeq for Windows Version 3.0

SEQ ID NO 30

LENGTH: 548

TYPE: PRT

ORGANISM: Pyrocoelia miyako

US-10-378-168-30

Query Match 67.0%; Score 1892; DB 15; Length 548;

Best Local Similarity 67.8%; Pred. No. 1.2e-174;

Matches 366; Conservative 72; Mismatches 100; Indels 2; Gaps 2;

QY 4 MEND-ENIVGPEPFYPIEGSAGALRYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61

Db 1 MEDDSKHIMHGRHSILWEDGTAGEQLHKAMRYAQVPGTIAFTDAHAENVITYSEYFEM 60

QY 62 SCCLGEALKNYGLVDCRIALCSENCEEFPIVLAGLFIGVGVAFTNRIYTLRELVLHSLG 121

Db 61 SCRLAETMKRYGLGLQHHIAVCSETSLOFFMPVCGALFIGVGVAFTNDIYNERELYNLSL 120

QY 122 ISKPTIVFSSKGLDKVITVQKTTAIVTILDSKYDYGVSQMDNFKKNTPOGFKGS 181

Db 121 ISOPTIVFCSKALQKILGVQKLPVIQKIVILDSREDYNGKQSMYSFIESHLPAFNEY 180

QY 182 SFKTVENRKEQVALIMNSSGSTGLPKGVLTTHMNVCFRSHCRDPVFGNQIIPDTALT 241

Db 181 DVIPOSFRETATALIMNSSGSTGLPKGVLTTHMNVCFRSHCRDPVFGNQIIPDTALT 240

QY 242 VVPHHGFQFTTLGYLTGCFRIVMLTKPDETFKLTQDYKSSVILVPTLFAILNRSE 301

Db 241 VIPHHVFMFTTLGYLTGCFRIVMLYRFEELFLRSQDYKIQSALLVPTLFSFFAKST 300

QY 302 LLDKYDLSNLVEIASGAPLSKEIGEAARRENLPGRVQGYGLTETTSAILIITPEGDDXP 361

Db 301 LVDKYDLSNLHEIASGAPLAKEVEGAARFPLGRVQGYGLTETTSAILIITPEGDDXP 360

QY 362 GASGVVPLFKAKVIDLDTKTLGNRRGEVCVKGPMLMGVYDNPATREIIDEGWLH 421

Db 361 GACGVVPPFTAKIVDLDTKTLGNRGELCVKGPMLMGVYNNPEATNALIDKQGLH 420

QY 422 TGDIGYDEEKEHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 481

Db 421 SGDIAYYDKGHHFFIVDLKSLIKYGYQVPPAELESILLQHPFIFDAGVAGIPDPDAGE 480

QY 482 LPGAUVVLKKGKSMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541

Db 481 LPAUVVLEEGKQWTEQEVMDYVAGQVTSKRLRGVRFVDEVPKGLTGKIDSKRIREIL 540

RESULT 17

US-09-838-469-33

Sequence 33, Application US/09838469

Publication No. US20030068801A1

GENERAL INFORMATION:

APPLICANT: Wood, Keith V.

APPLICANT: Hall, Mary P.

APPLICANT: Promega Corporation

TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION

FILE REFERENCE: 341.006US1

; CURRENT APPLICATION NUMBER: US/09/838,469
 ; CURRENT FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: Patentin Ver. 2.0
 ; SEQ ID NO 33
 ; LENGTH: 552
 ; TYPE: PRT
 ; ORGANISM: Beetle
 US-09-838-469-33

Query Match 64.9%; Score 1831; DB 10; Length 552;
 Best Local Similarity 62.7%; Pred. No. 1e-168;
 Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;

 QY 4 MENDENIVGPEPPFYPIEGSAGAKYMDRYAKL-GAIAFTNALTGVDTYVAYLEKS 62
 Db 1 MSIENNILIGPPYPYPLEEGTAGELHRAISRVAAPGTLAYDVHTELEVITYKEFLDVT 60

 QY 63 CCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNVETLRELHSLGI 122
 Db 61 CRLAEMKNYGLGLQHTISVCSNCEVQFFMPICAAALYGVATAPNTNDIYNERELYNLSI 120

 QY 123 SKPTIVFSSKKGDKVITVQKTVTAIKTIVILDSKYDYGYSQMDNFICKNTPOGFKGSS 182
 Db 121 SQPTIVFTSRNSLQKILGVQSRPLPIIKIILDGKDYLYGYSQSFMEKHVPANFNVA 180

 QY 183 FKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTALT 242
 Db 181 FKPLSFD-LDRVACIMNSGSGTGLPKGVPIHRNTIYRFSHCRDPVFGNQIIPDTTILCA 239

 QY 243 VPFHHGFGMTTLYLTCGFRIVMLTKFDEETFLKLDYKCSVILVPTLFAILNRSEL 302
 Db 240 VPFHAFGTFTNLGYLTCGFHVLMYRFEHFLQTLQDYKCSALLVPTVLAFLAKNPL 299

 QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALIIITPEGDDKPG 362
 Db 300 VDKYDLSNLHEIASGGAPLSKEISEIAAKRFKLPGRQGYGLTETTTCAIVITAEGBFKLG 359

 QY 363 ASGVVPLFKAKVIDLTKTIGPNRGEVCVKGPMKGYVDNPEATREIIDEGWLHT 422
 Db 360 AVGVVFPYSLKVIDLNTGKLGPNRGEICFGKPMIMKGYINNPEATREIIDEGWIHS 419

 QY 423 GDIGYDEEHFFIVDRLSLKIYKGYQVPPAESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 420 GDIGYFDEGHVIVDRLSLKIYKGYQVPPAELEALLQHPFIEDAGVAGVDPDEVAGDL 479

 QY 483 PGAVVVLKKGSKMTEKVMYDVSQVSNKRLRGVRFVDEVPKGLTGKIDKGAIREILK 542
 Db 480 PGAVVVLKKGSKITEKIQDYVAGQVTSKKLRGGVEFVKFPGFTGKIDTRKIBELI 539

 QY 543 K 543
 Db 540 K 540

RESULT 18
 US-10-378-168-33
 ; Sequence 33, Application US/10378166
 ; Publication No. US20030232404A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; TITLE OF INVENTION: production
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/10/378,166
 ; CURRENT FILING DATE: 2003-02-28
 ; PRIOR APPLICATION NUMBER: US/09/396,154
 ; PRIOR FILING DATE: 1999-09-15
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
 ; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
 ; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: FastSeq for Windows Version 3.0
 ; SEQ ID NO 33
 ; LENGTH: 552
 ; TYPE: PRT
 ; ORGANISM: Photuris pennsylvanica
 US-10-378-168-33

Query Match 64.9%; Score 1831; DB 15; Length 552;
 Best Local Similarity 62.7%; Pred. No. 1e-168;
 Matches 339; Conservative 91; Mismatches 109; Indels 2; Gaps 2;

 QY 4 MENDENIVGPEPPFYPIEGSAGAKYMDRYAKL-GAIAFTNALTGVDTYVAYLEKS 62
 Db 1 MSIENNILIGPPYPYPLEEGTAGELHRAISRVAAPGTLAYDVHTELEVITYKEFLDVT 60

 QY 63 CCLGEALKNYGLVVDGRIALCSNCEBFFIPVLAGLFIGVGVAPTNVETLRELHSLGI 122
 Db 61 CRLAEMKNYGLGLQHTISVCSNCEVQFFMPICAAALYGVATAPNTNDIYNERELYNLSI 120

 QY 123 SKPTIVFSSKKGDKVITVQKTVTAIKTIVILDSKYDYGYSQMDNFICKNTPOGFKGSS 182
 Db 121 SQPTIVFTSRNSLQKILGVQSRPLPIIKIILDGKDYLYGYSQSFMEKHVPANFNVA 180

 QY 183 FKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENIVTRFSHARDPIYGNQVSPGTALT 242
 Db 181 FKPLSFD-LDRVACIMNSGSGTGLPKGVPIHRNTIYRFSHCRDPVFGNQIIPDTTILCA 239

 QY 243 VPFHHGFGMTTLYLTCGFRIVMLTKFDEETFLKLDYKCSVILVPTLFAILNRSEL 302
 Db 240 VPFHAFGTFTNLGYLTCGFHVLMYRFEHFLQTLQDYKCSALLVPTVLAFLAKNPL 299

 QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSALIIITPEGDDKPG 362
 Db 300 VDKYDLSNLHEIASGGAPLSKEISEIAAKRFKLPGRQGYGLTETTTCAIVITAEGBFKLG 359

 QY 363 ASGVVPLFKAKVIDLTKTIGPNRGEVCVKGPMKGYVDNPEATREIIDEGWLHT 422
 Db 360 AVGVVFPYSLKVIDLNTGKLGPNRGEICFGKPMIMKGYINNPEATREIIDEGWIHS 419

 QY 423 GDIGYDEEHFFIVDRLSLKIYKGYQVPPAESVLLQHPNIFDAGVAGVDPDPIAGEL 482
 Db 420 GDIGYFDEGHVIVDRLSLKIYKGYQVPPAELEALLQHPFIEDAGVAGVDPDEVAGDL 479

 QY 483 PGAVVVLKKGSKMTEKVMYDVSQVSNKRLRGVRFVDEVPKGLTGKIDKGAIREILK 542
 Db 480 PGAVVVLKKGSKITEKIQDYVAGQVTSKKLRGGVEFVKFPGFTGKIDTRKIBELI 539

 QY 543 K 543
 Db 540 K 540

RESULT 19
 US-09-838-469-24
 ; Sequence 24, Application US/09838469
 ; Publication No. US20030068801A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; TITLE OF INVENTION: production
 ; FILE REFERENCE: 341.006US1
 ; CURRENT APPLICATION NUMBER: US/09/838,469
 ; CURRENT FILING DATE: 2001-04-19
 ; PRIOR APPLICATION NUMBER: US/09/156,946
 ; PRIOR FILING DATE: 1998-09-18
 ; NUMBER OF SEQ ID NOS: 41
 ; SOFTWARE: Patentin Ver. 2.0

; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-24

Query Match 60.6%; Score 1710.5; DB 10; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 82; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEPPPIIEGSAGAQLRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKSCL 65
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
3 DKNILYGPEPPPLEDGTAGEQMFALSRADIPOICIALTNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNYGLVGDRIALCSECEEFFIPVLACLFPGCVAPTNEIYTRELHSLGSKP 125
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
63 AESFKYGLKQNDITAVCSENGLQFFLPVIASLYGIIVAPVNDKYTERELIHSLGIVKP 122
QY 126 TTVFSKKGLDKVITVQKTITAIKTIVILDSKVYRGYSQMDNPKNTPOGFGSSFKT 185
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNLNEDLGVCQLNNPISQNSDNLDVKFKP 182
QY 186 VEVNRKEOVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPCTALLTVVPF 245
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
183 YSFNRDDQVALLMFSGGTTGLPKGVMLTKHNIARFSLAKOPTFGNAINPTTALTIVPF 242
QY 246 HGFGMFTTLGYLTGCFRIVMLTKFDEETFLTLDQYKCSSLVILPTLFAILNRSELDDK 305
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
243 HGFGMFTTLGYTCGRFVLMHTFEELFLQSLODYKVESTLLVPTLMAFLAKSALVEK 302
QY 306 YDSLNLVEIASGAPLSKEIGEAVARRNLPVQRQYGLTETTSAIIITPEGDDKPGASG 365
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
303 YDSLHLKEIASGAPLSKEIGEMVKRFKLNFVRQYGLTETTSAVLIITPKGDAPGSTG 362
QY 366 KVVPLFKAKVIDLDIKTLGPNRGEVCVKGPMVMKGYVDNPPEATRETIIDEGWLHTGDI 425
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
363 KIVPHANKVVDPTTGKILGPNPCGELYFKGPMVMKGYNNEEATKAIIDNDGWLRSGLD 422
QY 426 GYYDEKHFFIVDRUKSLIKYGYOVPALESVILLQHNPITFDAGVAGVDPPIAGELPGA 485
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
486 VVVLKKGKSMTEKVMYDVVASQVSNARKLRGVDFVBPVKGLTGKIDGKAIRILEKK 543
Db 483 GVVTQTGYLNEQIVQDYVASQVSTAKWLRGVDFELBEPKSGTGKIDRKVLRQMFEK 540

RESULT 20
US-09-813-2798-2
; Sequence 2, Application US/098132798
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; FILE REFERENCE: 10743/6
; CURRENT APPLICATION NUMBER: US/09/813,2798
; CURRENT FILING DATE: 2002-11-13
; PRIOR FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: US60/269,526
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-2798-2

Query Match 60.6%; Score 1710.5; DB 10; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 82; Mismatches 127; Indels 1; Gaps 1;

QY 7 DENIVGPEPPPIIEGSAGAQLRKYMRYAKL-GAIAFTNALTGVDYTYAEYLEKSCL 65
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
3 DKNILYGPEPPPLEDGTAGEQMFALSRADIPOICIALTNAHTKENVLYEFLKLSCL 62
QY 66 GEALKNYGLVGDRIALCSECEEFFIPVLACLFPGCVAPTNEIYTRELHSLGSKP 125
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
63 AESFKYGLKQNDITAVCSENGLQFFLPVIASLYGIIVAPVNDKYTERELIHSLGIVKP 122
QY 126 TTVFSKKGLDKVITVQKTITAIKTIVILDSKVYRGYSQMDNPKNTPOGFGSSFKT 185
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
123 RIVFCSKNTFOKVLNVKSKLSIETIIILDNLNEDLGVCQLNNPISQNSDNLDVKFKP 182
QY 186 VEVNRKEOVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPCTALLTVVPF 245
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
183 YSFNRDDQVALLMFSGGTTGLPKGVMLTKHNIARFSLAKOPTFGNAINPTTALTIVPF 242
QY 246 HGFGMFTTLGYLTGCFRIVMLTKFDEETFLTLDQYKCSSLVILPTLFAILNRSELDDK 305
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
243 HGFGMFTTLGYTCGRFVLMHTFEELFLQSLODYKVESTLLVPTLMAFLAKSALVEK 302
QY 306 YDSLNLVEIASGAPLSKEIGEAVARRNLPVQRQYGLTETTSAIIITPEGDDKPGASG 365
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
303 YDSLHLKEIASGAPLSKEIGEMVKRFKLNFVRQYGLTETTSAVLIITPKGDAPGSTG 362
QY 366 KVVPLFKAKVIDLDIKTLGPNRGEVCVKGPMVMKGYVDNPPEATRETIIDEGWLHTGDI 425
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
363 KIVPHANKVVDPTTGKILGPNPCGELYFKGPMVMKGYNNEEATKAIIDNDGWLRSGLD 422
QY 426 GYYDEKHFFIVDRUKSLIKYGYOVPALESVILLQHNPITFDAGVAGVDPPIAGELPGA 485
Db :|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:|||:
486 VVVLKKGKSMTEKVMYDVVASQVSNARKLRGVDFVBPVKGLTGKIDGKAIRILEKK 543
Db 483 GVVTQTGYLNEQIVQDYVASQVSTAKWLRGVDFELBEPKSGTGKIDRKVLRQMFEK 540

Db 63 AEFKFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELIHSGLIVKP 122
QY 126 TIVFSSKGLDKVITVOKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFKT 185
Db 123 RIVFCSKNTFOKVLNVKSLKSIETIILDLNEDLGGYQCLNNFISQNSDNLVDKFKP 182
QY 186 VEVNRKEQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVALINFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTVPF 242
QY 246 HHGFGMFTTILGTCGPRIVMLTKFDBETFLKLDQKCSSVILVPTLFAILNRSLLDK 305
Db 243 HHGFGMFTTILGTCGPRIVMLTKFDBETFLKLDQKCSSVILVPTLFAILNRSLLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAARFNLPGVRQGYGLTETTSALIIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKFKLNFVRQGYGLTETTSALIIITPEGDDKPGSTG 362
QY 366 KVVPLFKAKVIDLDTKTILGNRRGEVCVKGMKMGYVNDPBEATREIIDEEGWLHTGDI 425
Db 363 KIVPLHAKVVDPTTKILGNPEFGLYFKGPMKMGYNNNEATKAIIDNDGWLRSGLDI 422
QY 426 GYDDEKHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYYDNDGHFVIVDLKSLIKYGYQVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVVLKKGKSMTEKEVMYVAVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNEIQVDYVAVSQVSTAKWLKRGVVKFLDEIPKSGTGKIDRKVLQMLEK 540

RESULT 22

US-10-378-168-24
; Sequence 24, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: PastSeq for Windows Version 3.0
; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-24

Query Match 60.6%; Score 1710.5; DB 15; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 82; Mismatches 128; Indels 1; Gaps 1;
QY 7 DENIVYGPFFYPIEBGSAQAQLKRYMDRYAKL-GAIAFTNALTGVDYTYAEYLSKSCCL 65
Db 3 DKNILYGPFFYPIEBGTDAGEQFDALSRYADIPGCIATNAHTKENVLYEELKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGSKP 125
Db 63 AEFKFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELIHSGLIVKP 122

QY 126 TIVFSSKGLDKVITVOKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFKT 185
Db 123 RIVFCSKNTFOKVLNVKSLKSIETIILDLNEDLGGYQCLNNFISQNSDNLVDKFKP 182
QY 186 VEVNRKEQVALIMNSSGSTGLPKGVOLTHENIVTRFSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVALINFSSGTTGLPKGVMLTHKNIIVARFSLAKDPTFGNAINPTTALTVPF 242
QY 246 HHGFGMFTTILGTCGPRIVMLTKFDBETFLKLDQKCSSVILVPTLFAILNRSLLDK 305
Db 243 HHGFGMFTTILGTCGPRIVMLTKFDBETFLKLDQKCSSVILVPTLFAILNRSLLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGEAARFNLPGVRQGYGLTETTSALIIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGGAPLSKEIGEMVKKFKLNFVRQGYGLTETTSALIIITPEGDDKPGSTG 362
QY 366 KVVPLFKAKVIDLDTKTILGNRRGEVCVKGMKMGYVNDPBEATREIIDEEGWLHTGDI 425
Db 363 KIVPLHAKVVDPTTKILGNPEFGLYFKGPMKMGYNNNEATKAIIDNDGWLRSGLDI 422
QY 426 GYDDEKHFFIVDLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYYDNDGHFVIVDLKSLIKYGYQVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVVLKKGKSMTEKEVMYVAVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNEIQVDYVAVSQVSTAKWLKRGVVKFLDEIPKSGTGKIDRKVLQMLEK 540

RESULT 23

US-10-378-168-45
; Sequence 45, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: PastSeq for Windows Version 3.0
; SEQ ID NO 45
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-45

Query Match 60.6%; Score 1710.5; DB 15; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 83; Mismatches 127; Indels 1; Gaps 1;
QY 7 DENIVYGPFFYPIEBGSAQAQLKRYMDRYAKL-GAIAFTNALTGVDYTYAEYLSKSCCL 65
Db 3 DKNILYGPFFYPIEBGTDAGEQFDALSRYAIPGCIATNAHTKENVLYEELKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGSKP 125
Db 63 AEFKFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELIHSGLIVKP 122
QY 126 TIVFSSKGLDKVITVOKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFKT 185

Db 123 RIVFCCKNTFOKVLNVKSKLSIETIIILDNLNEDGGVQCLNNFISQNSDSNLDVKKPKP 182
QY 186 VEVNRKEQVALIMNSGSGTGLPKGVQVLTHTENIVTRFSHARDPIYGNQVSPGTAILTVVPF 245
Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKOPTFGNAINPTSAITVVPF 242
QY 246 HHGFGMTTLGYTCGFRVIMLTUKDEBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 305
Db 243 HHGFGMTTLGYTCGFRVIMLTUKDEBETFLKTLQDYKCSSVILVPTLFAILNRSELLDK 302
QY 306 YDLSNLVEIASGGAPLSKEIGAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPGASG 365
Db 303 YDLSNLVEIASGGAPLSKEIGAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPGASG 362
QY 366 KVVPLFAKVIDLTKTKLGNRRGEVCKGPMKMGYVNDPEATREIIBEGWLHTGDI 425
Db 363 KIVPLHAVKVVDPPTTKILGNPEGELYFKGPMKMGYVNDPEATREIIBEGWLHTGDI 422
QY 426 GYDDEKHHFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHHFYIVDRKLSLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVLLKKGKMTKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTGKYLNEQIVQDYVASQVSTAKWLRGGVYKFLDEIPKSGTGKIDRVLQRMPEK 540
RESULT 24
US-10-655-878-2
; Sequence 2, Application US/10655878
; Publication No. US20040101922A1
; GENERAL INFORMATION:
; APPLICANT: Somberg, Richard
; APPLICANT: Goueli, Said A.
; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
; FILE REFERENCE: 03-772
; CURRENT APPLICATION NUMBER: US/10/655,878
; PRIOR FILING DATE: 2003-09-05
; PRIOR APPLICATION NUMBER: US 60/408,662
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patent in version 3.2
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-655-878-2
Query Match 60.6%; Score 1710.5; DB 16; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 82; Mismatches 128; Indels 1; Gaps 1;
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Db 3 DKNILYGPPEPPLEDTAGEQMFDSALRYADIPGCIALTNAHTKENVLYEEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEBEFFIPVLGIFGVGVAPTNEIYTLRELVHSLGISK 125
Db 63 AESFKYGLKQNDTIAVCSNGLQFPLVIAVSLYLGIIIVAPVNDKYIERELIHSGLIVKP 122
QY 126 TIVFSSKGLDKVITVQKVTATKTIIVILDSKVDYRGYQSMDFIKNTQPGFKSSFKT 185
Db 123 RIVFCCKNTFOKVLNVKSKLSIETIIILDNLNEDGGVQCLNNFISQNSDSNLDVKKPKP 182
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Db 303 YDLSNLVEIASGGAPLSKEIGAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPGASG 362
QY 366 KVVPLFAKVIDLTKTKLGNRRGEVCKGPMKMGYVNDPEATREIIBEGWLHTGDI 425
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QY 426 GYDDEKHHFIVDRKLSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHHFYIVDRKLSLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
QY 486 VVLLKKGKMTKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILKK 543
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; Sequence 4, Application US/10655878
; Publication No. US20040101922A1
; GENERAL INFORMATION:
; APPLICANT: Somberg, Richard
; APPLICANT: Goueli, Said A.
; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
; FILE REFERENCE: 03-772
; CURRENT APPLICATION NUMBER: US/10/655,878
; PRIOR FILING DATE: 2003-09-05
; PRIOR APPLICATION NUMBER: US 60/408,662
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: Patent in version 3.2
; SEQ ID NO 4
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-655-878-4
Query Match 60.6%; Score 1710.5; DB 16; Length 544;
Best Local Similarity 60.8%; Pred. No. 5.3e-157;
Matches 327; Conservative 83; Mismatches 127; Indels 1; Gaps 1;
QY 7 DENIVGPEPPYPIERGSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEVLEKSCCL 65
Db 3 DKNILYGPPEPPLEDTAGEQMFDSALRYADIPGCIALTNAHTKENVLYEEFLKLSCL 62
QY 66 GEALKNYGLVVDGRIALCSENCEBEFFIPVLGIFGVGVAPTNEIYTLRELVHSLGISK 125
Db 63 AESFKYGLKQNDTIAVCSNGLQFPLVIAVSLYLGIIIVAPVNDKYIERELIHSGLIVKP 122
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Search completed: July 22, 2004, 08:33:28
Job time : 43 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:17:14 ; Search time 41 Seconds
(without alignments)
4185.573 Million cell updates/sec

Title: US-09-581-241A-8

Perfect score: 2823

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Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1288442 seqs, 313154207 residues

Total number of hits satisfying chosen parameters: 1288442

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database : Published Applications AA:

- 1: /cgn2_6/ptodata1/pubpaa/US07_PUBCOMB.pep.*
- 2: /cgn2_6/ptodata1/pubpaa/PCT_NEW_PUB.pep.*
- 3: /cgn2_6/ptodata1/pubpaa/US06_NEW_PUB.pep.*
- 4: /cgn2_6/ptodata1/pubpaa/US06_PUBCOMB.pep.*
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- 18: /cgn2_6/ptodata1/pubpaa/US60_PUBCOMB.pep.*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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1	2814	99.7	548	10	US-09-838-469-28
2	2814	99.7	548	15	US-10-378-168-28
3	2689	95.3	548	10	US-09-838-469-27
4	2689	95.3	548	15	US-10-378-168-27
5	2344.5	83.0	548	10	US-09-838-469-29
6	2344.5	83.0	548	15	US-10-378-168-29
7	1968.5	69.7	547	10	US-09-838-469-32
8	1968.5	69.7	547	15	US-10-378-168-32
9	1965.5	69.6	975	12	US-10-072-012-329
10	1960.5	69.4	895	14	US-10-348-074-47
11	1954.5	69.2	550	10	US-09-838-469-31
12	1954.5	69.2	550	14	US-10-348-074-34
13	1954.5	69.2	550	15	US-10-378-168-31
14	1954.5	69.2	1172	14	US-10-122-706-4
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20	1706.5	60.4	544	15	US-10-378-168-24
21	1706.5	60.4	544	10	US-09-813-279B-4
22	1706.5	60.4	544	15	US-10-378-168-24
23	1706.5	60.4	544	15	US-10-378-168-45
24	1706.5	60.4	544	16	US-10-555-878-2
25	1706.5	60.4	544	16	US-10-555-878-4
26	1702.5	60.3	544	10	US-09-813-279B-3
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59	1384	49.0	546	15	US-10-378-168-34
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64	1354	48.0	543	10	US-09-838-469-35
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66	1352	47.9	542	15	US-10-378-168-26
67	1331	47.1	546	9	US-09-993-874-4
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69	764	27.1	553	12	US-10-425-114-36657
70	757	26.8	510	15	US-10-369-493-20140
71	755	26.7	506	12	US-10-425-114-55457
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88	705	25.0	539	16	US-10-437-963-133157

89 699 24.8 559 14 US-10-289-757-90 Sequence 90, Appl
90 694 24.6 470 12 US-10-425-114-48996 Sequence 48996 A
91 694 24.6 559 14 US-10-289-757-91 Sequence 91, Appl
92 693.5 24.6 555 16 US-10-437-963-196091 Sequence 196091,
93 692.5 24.5 575 14 US-10-174-693-407 Sequence 407, App
94 692 24.5 601 12 US-10-425-114-69253 Sequence 69253, A
95 691 24.5 555 14 US-10-361-460-2 Sequence 2, Appli
96 690.5 24.5 571 16 US-10-437-963-102985 Sequence 102985,
97 682 24.2 551 14 US-10-174-693-348 Sequence 348, App
98 672.5 23.8 565 16 US-10-437-963-140091 Sequence 140091,
99 670 23.7 539 14 US-10-289-757-89 Sequence 89, Appl
100 666 23.6 528 16 US-10-437-963-168178 Sequence 168178,

ALIGNMENTS

RESULT 1

US-09-838-469-28
; Sequence 28, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: PROMEGA CORPORATION
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-28

Query Match 99.7%; Score 2814; DB 10; Length 548;
Best Local Similarity 99.6%; Pred. No. 6.1e-264;
Matches 546; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENNDENIVYGPPEPYPIEBSAGALQKYMMDRYAKLGAIAFTNALTGVDTYAEVLE 60
DB 1 MENNDENIVYGPPEPYPIEBSAGALQKYMMDRYAKLGAIAFTNALTGVDTYAEVLE 60
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DB 361 PGASGKVVPLFAKVIDLDTKTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEEGWL 420
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US-10-378-168-28
; Sequence 28, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 50/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-10-378-168-28

Query Match 99.7%; Score 2814; DB 15; Length 548;
Best Local Similarity 99.6%; Pred. No. 6.1e-264;
Matches 546; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

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Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548
RESULT 3
US-09-838-469-27
; Sequence 27, Application US/09838469
; Publication No. US2003068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-27

Query Match 95.3%; Score 2689; DB 10; Length 548;
Best Local Similarity 93.6%; Pred. No. 8.5e-252;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;
Qy 1 MENMENDENIVGPEPFPIEGSAGAOIRKYMDRYAKLGAIAFTNALTGVDVYAEVLE 60
Db 1 MENMENDENIVGPKPFPIEGSAGTQURKYMERYAKLGAIAFTNAVTVGDVSYAEVLE 60
Qy 61 KSCCLGEALKNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAFTNEIYTLRELHVSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAFTNEIYTLRELHVSL 120
Qy 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQVQSMDFIKNTPPGPKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQVQCLDTFIKNTPPGQA 180
Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFSGHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVOLTHENTVTRFSGHARDPIYGNQVSPGTAVL 240
Qy 241 TVVPFHGFGMFTTGLYLCGFRVMTLTKFDEETFLKTDYKCSSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYLCGFRVMTLTKFDEETFLKTDYKCTSVILVPTLFAILNKS 300
Qy 301 ELLDKYDLNLSVEIASGGAPLSKEGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
Db 301 ELLNKYDLNLSVEIASGGAPLSKEGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
Qy 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVNDNPEATREIIDEEGWL 420
Db 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVNNPEATKELIIDEEGWL 420
Qy 421 HTGDIGYDEEKHFFIVDRKSLIKYKGYQVPPAESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDIGYDEEKHFFIVDRKSLIKYKGYQVPPAESVLLQHPNIFDAGVAGVDPDIAG 480
Qy 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

Qy 541 LKKPVAKM 548
Db 541 LKKPVAKM 548
RESULT 4
US-10-378-168-27
; Sequence 27, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 27
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola cruciata
US-10-378-168-27

Query Match 95.3%; Score 2689; DB 15; Length 548;
Best Local Similarity 93.6%; Pred. No. 8.5e-252;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;
Qy 1 MENMENDENIVGPEPFPIEGSAGAOIRKYMDRYAKLGAIAFTNALTGVDVYAEVLE 60
Db 1 MENMENDENIVGPKPFPIEGSAGTQURKYMERYAKLGAIAFTNAVTVGDVSYAEVLE 60
Qy 61 KSCCLGEALKNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAFTNEIYTLRELHVSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEEFFIPVLAGLFIGVGAFTNEIYTLRELHVSL 120
Qy 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQVQSMDFIKNTPPGPKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVTAITVILDSKVDRYQVQCLDTFIKNTPPGQA 180
Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFSGHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVDRKEQVALIMNSSGSTGLPKGVOLTHENTVTRFSGHARDPIYGNQVSPGTAVL 240
Qy 241 TVVPFHGFGMFTTGLYLCGFRVMTLTKFDEETFLKTDYKCSSVILVPTLFAILNRS 300
Db 241 TVVPFHGFGMFTTGLYLCGFRVMTLTKFDEETFLKTDYKCTSVILVPTLFAILNKS 300
Qy 301 ELLDKYDLNLSVEIASGGAPLSKEGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
Db 301 ELLNKYDLNLSVEIASGGAPLSKEGEAVARRNLPVGRQGYGLTETTSALIIITPEGDDK 360
Qy 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVNDNPEATREIIDEEGWL 420
Db 361 PGASGKVVPLFAKVIDLDTKTLGNRRGEVCVKGPMLMKGYVNNPEATKELIIDEEGWL 420
Qy 421 HTGDIGYDEEKHFFIVDRKSLIKYKGYQVPPAESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDIGYDEEKHFFIVDRKSLIKYKGYQVPPAESVLLQHPNIFDAGVAGVDPDIAG 480
Qy 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREI 540

Qy 541 LKCPVAKM 548
| | | | |
Db 541 LKCPVAKM 548

RESULT 5

US-09-838-469-29
; Sequence 29, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006051
; CURRENT APPLICATION NUMBER: US/09/838,469
; PRIOR FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patentin ver. 2.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-29

Query Match 83.0%; Score 2344.5; DB 10; Length 548;
Best Local Similarity 82.1%; Pred. No. 2.5e-218;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
Qy 4 MENDENIVYGPPEFYPIEESGAGALRKYMDRVAKLGAIATFTALGVDTVAEYLEKSC 63
| | | | |
Db 3 MEKENVYVGLPYPIEESGAGIQLHKYHQVAKLGAIAFSNALTGVDSIQEYFDITC 62
| | | | |
Qy 64 CLGALKNYGLVVDGRIALCSENCEBFFIPVLAGLFTIGVGVAPTNEIYTLRELHSLGTS 123
| | | | |
Db 63 RLAEAMKNGFKMPEBHIALCSENCEBFFIPVLAGLYIGVAVAPTNEIYTLRELHSLGIA 122
| | | | |
Qy 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDMNFIKKNTPOGKGSSF 183
| | | | |
Db 123 OPTIVFSSRGLPKVLEQVKTVCIKKIVILDSKVNFGGHDCMETFIKKHVELGQPSF 182
| | | | |
Qy 184 KTVEV-NRKEQVALIMNSGSTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITLV 242
| | | | |
Db 183 VPIDVKNRKHVALLMNSGSTGLPKGVRITHEGAVTRFESHAKDPIYGNQVSPGTAITLV 242
| | | | |
Qy 243 VPFHGGFMFTTLYLTCGRIYMLTKFDEBETFLKTLQDYKSSVILVPTLFAILNRSEL 302
| | | | |
Db 243 VPFHGGFMFTTLYGACGVVVMKTFDEELFURLQDYKCTSVILVPTLFAILNRSEL 302
| | | | |
Qy 303 LDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPGVRRQVGYGLTETTSAIIITPEGDDKPG 362
| | | | |
Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARRFNLPGVRRQVGYGLTETTSAIIITPEGDDKPG 362
| | | | |
Qy 363 ASGVVPLFKAVKVIDLTKTTLGNRRGEVGVKGMKMGVVDNPEATREIIDEGLWHT 422
| | | | |
Db 363 ASGVVPLFKVVIDLTKTTLGNRRGEICVKGPSLMGLYNNPEATRETIDEGLWHT 422
| | | | |
Qy 423 GDIGYDDEBKHFFIVDLRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
| | | | |
Db 423 GDIGYDDEBHFIVDLRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
| | | | |
Qy 483 PGAVVLEKSGMTEKEVMDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 542
| | | | |
Db 483 PGAVVMEKGMTKEIIVDYNVSNQVNNHKLRRGGVRFVDEVPKGLTGKIDAKVIREILK 542
| | | | |
Qy 543 KPQAKM 548
| | | | |
Db 543 KPQAKM 548

RESULT 6

US-10-378-168-29
; Sequence 29, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 29
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola mingrelia
US-10-378-168-29

Query Match 83.0%; Score 2344.5; DB 15; Length 548;
Best Local Similarity 82.1%; Pred. No. 2.5e-218;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
Qy 4 MENDENIVYGPPEFYPIEESGAGALRKYMDRVAKLGAIATFTALGVDTVAEYLEKSC 63
| | | | |
Db 3 MEKENVYVGLPYPIEESGAGIQLHKYHQVAKLGAIAFSNALTGVDSIQEYFDITC 62
| | | | |
Qy 64 CLGALKNYGLVVDGRIALCSENCEBFFIPVLAGLFTIGVGVAPTNEIYTLRELHSLGTS 123
| | | | |
Db 63 RLAEAMKNGFKMPEBHIALCSENCEBFFIPVLAGLYIGVAVAPTNEIYTLRELHSLGIA 122
| | | | |
Qy 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSDMNFIKKNTPOGKGSSF 183
| | | | |
Db 123 OPTIVFSSRGLPKVLEQVKTVCIKKIVILDSKVNFGGHDCMETFIKKHVELGQPSF 182
| | | | |
Qy 184 KTVEV-NRKEQVALIMNSGSTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITLV 242
| | | | |
Db 183 VPIDVKNRKHVALLMNSGSTGLPKGVRITHEGAVTRFESHAKDPIYGNQVSPGTAITLV 242
| | | | |
Qy 243 VPFHGGFMFTTLYLTCGRIYMLTKFDEBETFLKTLQDYKSSVILVPTLFAILNRSEL 302
| | | | |
Db 243 VPFHGGFMFTTLYGACGVVVMKTFDEELFURLQDYKCTSVILVPTLFAILNRSEL 302
| | | | |
Qy 303 LDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPGVRRQVGYGLTETTSAIIITPEGDDKPG 362
| | | | |
Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARRFNLPGVRRQVGYGLTETTSAIIITPEGDDKPG 362
| | | | |
Qy 363 ASGVVPLFKAVKVIDLTKTTLGNRRGEVGVKGMKMGVVDNPEATREIIDEGLWHT 422
| | | | |
Db 363 ASGVVPLFKVVIDLTKTTLGNRRGEICVKGPSLMGLYNNPEATRETIDEGLWHT 422
| | | | |
Qy 423 GDIGYDDEBKHFFIVDLRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
| | | | |
Db 423 GDIGYDDEBHFIVDLRLKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDPAGEL 482
| | | | |
Qy 483 PGAVVLEKSGMTEKEVMDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILK 542
| | | | |
Db 483 PGAVVMEKGMTKEIIVDYNVSNQVNNHKLRRGGVRFVDEVPKGLTGKIDAKVIREILK 542
| | | | |
Qy 543 KPQAKM 548
| | | | |
Db 543 KPQAKM 548

RESULT 7

```

US-09-838-469-32
; Sequence 32, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-32

Query Match      69.7%; Score 1968.5; DB 10; Length 547;
Best Local Similarity 69.2%; Pred. No. 8.5e-182;
Matches 373; Conservative 74; Mismatches 91; Indels 1; Gaps 1;

QY 4 MENDENIVGPPFPPIEGSGAQLRYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
D 1 MEDAKNIMHGPAFPYPLEDGTAGEQLHKAMKRYAQVPGTIAFTDAHAENVITYSEYFEMA 60
QY 63 CCLGEALKNYGLVVDGRIALCSENCEEFPIPVLAGLFIGVGVAFTNEIYTLRELVHSLGI 122
D 61 CRLAETWKRYGLGLQHIIAVCSENSLOFFMPVCGALFIGVGVAFTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKGLDKVITVOKTVAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKGSS 182
D 121 SPTIVSCSKRALQKILGVOKKLPILQIKVILDSREDYMGKQSMYFIESHLPAGFNEYD 180
QY 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV 242
D 181 YIPDSFRETATALLMNSSGSTGLPKGVQLTHQNCVRFSHCRDVPFGNQIIPDTAILTV 240
QY 243 VPFHFGFMFTTGLYLTCCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLPAIINRSEL 302
D 241 IFFHFGFMFTTGLYLTCCGFRIVMLYRFBELFLRSLODYKQSSALLVPTLFSFAKSTL 300
QY 303 LKDYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILITPEGDDKPG 362
D 301 VDKYDLSNLHEIASGAPLAKEVGEAVAKRFLPGIRQGYGLTETTSAILITPEGDDKPG 360
QY 363 ASGKVVPFLFAKVIDLDTKTLGNRRGECVCKGPMKMGVYDNPETREIIDESEGLHT 422
D 361 ACQKVVPPFSAKIVDLDTGKTLGVNQRGELCVKGPIMKGYVNNPEATSLIDKQGLHS 420
QY 423 GDIGYVDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 482
D 421 GDIAVYDKDGHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 480
QY 483 PGAVVVLKSKMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541
D 481 PAAVVVLEEGKMTQEVMDYVAGQVTSKRLRGVRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 8
US-10-072-012-329
; Sequence 329, Application US/10072012
; Publication No. US20040033493A1
; GENERAL INFORMATION:
; APPLICANT: Tchernev, Velizar
; APPLICANT: Spytek, Kimberly
; APPLICANT: Zetshusen, Bryan
; APPLICANT: Patturajan, Meera
; APPLICANT: Shimkets, Richard
; APPLICANT: Li, Li
; APPLICANT: Gangolli, Esha
; APPLICANT: Padigaru, Muralidhara
; APPLICANT: Anderson, David W.
; APPLICANT: Rastelli, Luca

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; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 32
; LENGTH: 547
; TYPE: PRT
; ORGANISM: Lampyris noctiluca
US-10-378-168-32

Query Match      69.7%; Score 1968.5; DB 15; Length 547;
Best Local Similarity 69.2%; Pred. No. 8.5e-182;
Matches 373; Conservative 74; Mismatches 91; Indels 1; Gaps 1;

QY 4 MENDENIVGPPFPPIEGSGAQLRYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
D 1 MEDAKNIMHGPAFPYPLEDGTAGEQLHKAMKRYAQVPGTIAFTDAHAENVITYSEYFEMA 60
QY 63 CCLGEALKNYGLVVDGRIALCSENCEEFPIPVLAGLFIGVGVAFTNEIYTLRELVHSLGI 122
D 61 CRLAETWKRYGLGLQHIIAVCSENSLOFFMPVCGALFIGVGVAFTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKGLDKVITVOKTVAIKTIVILDSKVDYRGVQSMDFIKKNTPOGFKGSS 182
D 121 SPTIVSCSKRALQKILGVOKKLPILQIKVILDSREDYMGKQSMYFIESHLPAGFNEYD 180
QY 183 FKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV 242
D 181 YIPDSFRETATALLMNSSGSTGLPKGVQLTHQNCVRFSHCRDVPFGNQIIPDTAILTV 240
QY 243 VPFHFGFMFTTGLYLTCCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLPAIINRSEL 302
D 241 IFFHFGFMFTTGLYLTCCGFRIVMLYRFBELFLRSLODYKQSSALLVPTLFSFAKSTL 300
QY 303 LKDYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRQGYGLTETTSAILITPEGDDKPG 362
D 301 VDKYDLSNLHEIASGAPLAKEVGEAVAKRFLPGIRQGYGLTETTSAILITPEGDDKPG 360
QY 363 ASGKVVPFLFAKVIDLDTKTLGNRRGECVCKGPMKMGVYDNPETREIIDESEGLHT 422
D 361 ACQKVVPPFSAKIVDLDTGKTLGVNQRGELCVKGPIMKGYVNNPEATSLIDKQGLHS 420
QY 423 GDIGYVDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 482
D 421 GDIAVYDKDGHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDPADEL 480
QY 483 PGAVVVLKSKMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREIL 541
D 481 PAAVVVLEEGKMTQEVMDYVAGQVTSKRLRGVRFVDEVPKGLTGKIDGKAIREIL 539

RESULT 9
US-10-072-012-329
; Sequence 329, Application US/10072012
; Publication No. US20040033493A1
; GENERAL INFORMATION:
; APPLICANT: Tchernev, Velizar
; APPLICANT: Spytek, Kimberly
; APPLICANT: Zetshusen, Bryan
; APPLICANT: Patturajan, Meera
; APPLICANT: Shimkets, Richard
; APPLICANT: Li, Li
; APPLICANT: Gangolli, Esha
; APPLICANT: Padigaru, Muralidhara
; APPLICANT: Anderson, David W.
; APPLICANT: Rastelli, Luca

```

; APPLICANT: Miller, Charles E.
 ; APPLICANT: Gerlach, Valerie
 ; APPLICANT: Taupier Jr, Raymond J.
 ; APPLICANT: Gusev, Vladimir Y.
 ; APPLICANT: Colman, Steven D.
 ; APPLICANT: Wolenc, Adam R.
 ; APPLICANT: Pena, Carol E. A
 ; APPLICANT: Furtak, Katarzyna
 ; APPLICANT: Grosse, William M.
 ; APPLICANT: Alsobrook II, John P.
 ; APPLICANT: Lepley, Denise M.
 ; APPLICANT: Rieger, Daniel K.
 ; APPLICANT: Burgess, Catherine E.
 ; TITLE OF INVENTION: Proteins and Nucleic Acids Encoding Same
 ; FILE REFERENCE: 21402-258
 ; CURRENT APPLICATION NUMBER: US/10/072,012
 ; CURRENT FILING DATE: 2002-01-31
 ; PRIOR APPLICATION NUMBER: 60/265,102
 ; PRIOR FILING DATE: 2001-01-30
 ; PRIOR APPLICATION NUMBER: 60/265,514
 ; PRIOR FILING DATE: 2001-01-31
 ; PRIOR APPLICATION NUMBER: 60/265,517
 ; PRIOR FILING DATE: 2001-01-31
 ; PRIOR APPLICATION NUMBER: 60/265,412
 ; PRIOR FILING DATE: 2001-01-31
 ; PRIOR APPLICATION NUMBER: 60/265,395
 ; PRIOR FILING DATE: 2001-01-31
 ; PRIOR APPLICATION NUMBER: 60/266,406
 ; PRIOR FILING DATE: 2001-02-02
 ; PRIOR APPLICATION NUMBER: 60/266,767
 ; PRIOR FILING DATE: 2001-02-05
 ; PRIOR APPLICATION NUMBER: 60/267,057
 ; PRIOR FILING DATE: 2001-02-07
 ; PRIOR APPLICATION NUMBER: 60/266,975
 ; PRIOR FILING DATE: 2001-02-07
 ; PRIOR APPLICATION NUMBER: 60/267,459
 ; PRIOR FILING DATE: 2001-02-08
 ; Remaining Prior Application data removed - See File Wrapper or PALM.
 ; NUMBER OF SEQ ID NOS: 1391
 ; SOFTWARE: Patent in Ver. 2.1
 ; SEQ ID NO 328
 ; LENGTH: 975
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: Description of Artificial Sequence: Synthetic
 ; OTHER INFORMATION: Construct
 US-10-072-012-329

Query Match 69.6%; Score 1965.5; DB 12; Length 975;
 Best Local Similarity 68.9%; Pred. No. 4.3e-181;
 Matches 373; Conservative 73; Mismatches 94; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEFFPIEBSAGALRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKS 62
 DB 426 MEDAKNIKGPAPFYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNIYAEYFMS 485
 QY 63 CCIGALKNKGLVVDGRIALCSECEFFPIVLAGLFIGVAPNTNEIYTLSELVHSLGI 122
 DB 486 VRLAEAMKRYGLNTNRIIVVCSSENSLOFFMPVLGALFIGVAPANDIYNERELNSMGI 545
 QY 123 SKPTIVFSSKGGDKVITVQKTVAIKTIVILDSKVDYRGYQSMONFIKKNTPQGFKGS 182
 DB 546 SQPTVVFSKGGQKILNVQKLPITQKIIIMDSKTDYQGFQSMYTFVTSHPGNEYD 605
 QY 183 FKTVENRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITV 242
 DB 606 FVPESEDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFESHARDPIFGNQIIPDTAILSV 665
 QY 243 VPPHHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRSEL 302
 DB 666 VPPHHGFGMTTILGYLICGFRVVMYRFEELFLRSLODYKIOSALLVPTLFSFFAKSTL 725

QY 303 LDKYDLSNLVEIASGGAPLSKEICEAVARRFNLPVGRQYGLTETTSAILITPEGDDKPG 362
 DB 726 IDKYDLSNLVEIASGGAPLSKEICEAVARRFNLPVGRQYGLTETTSAILITPEGDDKPG 785
 QY 363 ASGKVPFLFKAKVIDLDTKTGLPNRRGEVCVAGPMLKMGYVNDNPEATREIIDEEGWLHT 422
 DB 786 AVGKVEFFFEAKVVDLDTGKTLGVNQREGELCVRGPMISGVVNPATNALIDKDWLHS 845
 QY 423 GDIGYDEEKHFIVDRKLSLIKFKHQVPPABLESVLLQHPNIFDAGVAGVDPDTAGEL 482
 DB 846 GDIAWDEDEBEFFIVDRKLSLIKFKHQVPPABLESVLLQHPNIFDAGVAGLPPDDAGEL 905
 QY 483 PGAVVLEKGSMTKEKVMYDVASQVSNAXRLGGVRFVDEVPKLTKGIDGKAIREILK 542
 DB 906 PAAVVLEHKGTMTEKIVDVASQVTTAKLGGVVFVDEVPKLTKGLDKARKIREILI 965
 QY 543 K 543
 DB 966 K 966
 RESULT 10
 US-10-348-074-47
 ; Sequence 47, Application US/10348074
 ; Publication No. US20030176386A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Morphotek Inc.
 ; APPLICANT: Grasso, Luigi
 ; APPLICANT: Kline, J. Bradford
 ; APPLICANT: Nicolaides, Nicholas C.
 ; APPLICANT: Sasse, Philip M.
 ; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
 ; FILE REFERENCE: MG0003 US (MOR-0140)
 ; CURRENT APPLICATION NUMBER: US/10/348,074
 ; CURRENT FILING DATE: 2003-01-17
 ; PRIOR APPLICATION NUMBER: 60/349,565
 ; PRIOR FILING DATE: 2002-01-18
 ; NUMBER OF SEQ ID NOS: 47
 ; SOFTWARE: Patent in version 3.2
 ; SEQ ID NO 47
 ; LENGTH: 895
 ; TYPE: PRT
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: Chimera: Luc from Photinus pyralis; HYG from Escherichia coli
 US-10-348-074-47

Query Match 69.4%; Score 1960.5; DB 14; Length 895;
 Best Local Similarity 68.6%; Pred. No. 1.1e-180;
 Matches 372; Conservative 74; Mismatches 95; Indels 1; Gaps 1;
 QY 3 NMENDENIVGPEFFPIEBSAGALRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEK 61
 DB 345 NMEDAKNIKGPAPFYPLEDGTAGEQLHKAMKRYALVPGTIAFTDAHIEVNIYAEYFEM 404
 QY 62 CCIGALKNKGLVVDGRIALCSECEFFPIVLAGLFIGVAPNTNEIYTLSELVHSLG 121
 DB 405 SVRLAEAMKRYGLNTNRIIVVCSSENSLOFFMPVLGALFIGVAPANDIYNERELNSMN 464
 QY 122 ISKPTIVFSSKGGDKVITVQKTVAIKTIVILDSKVDYRGYQSMONFIKKNTPQGFKGS 181
 DB 465 ISQPTVVFSKGGQKILNVQKLPITQKIIIMDSKTDYQGFQSMYTFVTSHPGNEY 524
 QY 182 FKTVENRKEQVALIMNSSGSTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTAITV 241
 DB 525 FVPESEDRDKTIALIMNSSGSTGLPKGVALPHRTACVRFESHARDPIFGNQIIPDTAILS 584
 QY 242 VPPHHGFGMTTILGYLTCGFRIVMLTKFDEETFLKTDYKCSSVILVPTLFAILNRSE 301
 DB 585 VPPHHGFGMTTILGYLICGFRVVMYRFEELFLRSLODYKIOSALLVPTLFSFFAKST 644
 QY 302 LDKYDLSNLVEIASGGAPLSKEICEAVARRFNLPVGRQYGLTETTSAILITPEGDDKPG 361

Db 645 LDKYDLSNLHIAAGGAPLSKEVEAVAKRPHLPGRIGQGYGLTETTSAILITPEGDDKP 704
Qy 362 GASGVVPLFKAKVLDLTKTLPNRRGEVCVKGPMKMGVYDMPPEATRIIIBEGWLH 421
Db 705 GAVGVVPPFEAKVVDLDTGKTLGNQRGELCVRGPMISGYVNNPEATNALIDKDWLH 764
Qy 422 TGDIGYDEKHEFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 481
Db 765 SDIAYWDEDEFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGLPPDDAGE 824
Qy 482 LPGAVVLEKSGMTEKEVMDYASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREIL 541
Db 825 LPAAVVVLEHGKTMTEKEIVDVVASQVTTAKKRGVGVFVDEVPKGLTGKIDKARKIREIL 884
Qy 542 KK 543
Db 885 IK 886
RESULT 11
US-09-838-469-31
; Sequence 31, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Promega Corporation
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE REFERENCE: 341.00GUS1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 31
; LENGTH: 550
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-31
Query Match 69.2%; Score 1954.5; DB 10; Length 550;
Best Local Similarity 68.6%; Pred. No. 2e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;
Qy 4 MENDENIVGPPFPPIEBGSAQRLKRYMDRYAKL-GAIAFTNALTGVDVITYAEYLEKS 62
Db 1 MEDAKNIKGPAPFPLEDTAGEQLHKAMKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 60
Qy 63 CCLGEALKNYGLVVDGRICALSCENCEBEPFIPVLAGLFTGVGVAPTNIEYTLRELVHSLGI 122
Db 61 VLAEAMKRYGLNTHRIIVVCSNSLQFPMPVILGALF-GVAVAPANDIYNRELLNSMNI 120
Qy 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYSMDNFIKQNTPOGFKSS 182
Db 121 SPTVVFVSKKGLKILNVQKLPILQKLIIMDSKTDYQGQSMYTFVTSHLPFGFNEYD 180
Qy 183 FKTVENRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTALTY 242
Db 181 FVPEFDRDKTIALIMNSGSGTGLPKGVALLPHRTACVRFSHARDPIFGNQIIPDTALLSV 240
Qy 243 VPFHGFGMFTTLGYLTGCGFRVIMLTKDEETFLKTDYKCSSVILNPTLFAILNSEL 302
Db 241 VPFHGFGMFTTLGYLTGCGFRVIMLRYFEELFLRSQDYKIQSALLVPTLFFAKSTL 300
Qy 303 LDKYDLSNLVEIASGAPLSKEIGAVARRNLPQVRQGYGLTETTSAILITPEGDDKXP 362
Db 301 IDKYDLSNLHIEIASGAPLSKEVGEAVAKRPHLPGRIGQGYGLTETTSAILITPEGDDKXP 360
Qy 363 ASGKVVPLFKAKVLDLTKTLPNRRGEVCVKGPMKMGVYDMPPEATRIIIBEGWLH 422
Db 361 AVGVVPPFEAKVVDLDTGKTLGNQRGELCVRGPMISGYVNNPEATNALIDKDWLH 420

Qy 423 GDTGYDEKHEFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 482
Db 421 GDIAYWDEDEFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGLPPDDAGE 480
Qy 483 PGAVVLEKSGMTEKEVMDYASQVSNAKRLGGVRFVDEVPKGLTGKIDGKAIREIL 542
Db 481 PAAVVVLEHGKTMTEKEIVDVVASQVTTAKKRGVGVFVDEVPKGLTGKIDKARKIREIL 540
Qy 543 K 543
Db 541 K 541
RESULT 12
US-10-348-074-34
; Sequence 34, Application US/10348074
; Publication No. US20030176386A1
; GENERAL INFORMATION:
; APPLICANT: Morphotek Inc.
; APPLICANT: Grasso, Luigi
; APPLICANT: Kline, J. Bradford
; APPLICANT: Nicolaides, Nicholas C.
; APPLICANT: Sasse, Philip M.
; TITLE OF INVENTION: Method for Generating Engineered Cells for Locus Specific Gene
; FILE REFERENCE: MG0003 US (MOR-0140)
; CURRENT APPLICATION NUMBER: US/10/348,074
; CURRENT FILING DATE: 2003-01-17
; PRIOR APPLICATION NUMBER: 60/349,565
; PRIOR FILING DATE: 2002-01-18
; NUMBER OF SEQ ID NOS: 47
; SOFTWARE: PatentIn version 3.2
; SEQ ID NO 34
; LENGTH: 550
; TYPE: PRT
; ORGANISM: Photinus pyralis
US-10-348-074-34
Query Match 69.2%; Score 1954.5; DB 14; Length 550;
Best Local Similarity 68.6%; Pred. No. 2e-180;
Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;
Qy 4 MENDENIVGPPFPPIEBGSAQRLKRYMDRYAKL-GAIAFTNALTGVDVITYAEYLEKS 62
Db 1 MEDAKNIKGPAPFPLEDTAGEQLHKAMKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 60
Qy 63 CCLGEALKNYGLVVDGRICALSCENCEBEPFIPVLAGLFTGVGVAPTNIEYTLRELVHSLGI 122
Db 61 VLAEAMKRYGLNTHRIIVVCSNSLQFPMPVILGALF-GVAVAPANDIYNRELLNSMNI 120
Qy 123 SKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYSMDNFIKQNTPOGFKSS 182
Db 121 SPTVVFVSKKGLKILNVQKLPILQKLIIMDSKTDYQGQSMYTFVTSHLPFGFNEYD 180
Qy 183 FKTVENRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFESHARDPIYGNQVSPGTALTY 242
Db 181 FVPEFDRDKTIALIMNSGSGTGLPKGVALLPHRTACVRFSHARDPIFGNQIIPDTALLSV 240
Qy 243 VPFHGFGMFTTLGYLTGCGFRVIMLTKDEETFLKTDYKCSSVILNPTLFAILNSEL 302
Db 241 VPFHGFGMFTTLGYLTGCGFRVIMLRYFEELFLRSQDYKIQSALLVPTLFFAKSTL 300
Qy 303 LDKYDLSNLVEIASGAPLSKEIGAVARRNLPQVRQGYGLTETTSAILITPEGDDKXP 362
Db 301 IDKYDLSNLHIEIASGAPLSKEVGEAVAKRPHLPGRIGQGYGLTETTSAILITPEGDDKXP 360
Qy 363 ASGKVVPLFKAKVLDLTKTLPNRRGEVCVKGPMKMGVYDMPPEATRIIIBEGWLH 422
Db 361 AVGVVPPFEAKVVDLDTGKTLGNQRGELCVRGPMISGYVNNPEATNALIDKDWLH 420
Qy 423 GDTGYDEKHEFFIVDRKLSLIKYGQVPPAELESVLLQHPNIFDAGVAGVDPPIAGE 482

Db 421 GDIAWDEDEHFFIVDRKSLIKYKGVQVAPAELESILLQHPNIFDAGVAGLPDDDAGEL 480

Qy 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542

Db 481 PAAVVVLEHGKMTKEKEIVDYVASQVTTAKKLKRGVVFVDEVPKGLTGKIDKARKIREILI 540

Qy 543 K 543

Db 541 K 541

RESULT 13

US-10-378-168-31

; Sequence 31, Application US/10378168

; Publication No. US2003032404A1

; GENERAL INFORMATION:

; APPLICANT: Wood, Keith V.

; APPLICANT: Hall, Mary P.

; TITLE OF INVENTION: Thermostable luciferases and methods of

; FILE REFERENCE: 341.012US1

; CURRENT APPLICATION NUMBER: US/10/378,168

; PRIOR FILING DATE: 2003-02-28

; PRIOR APPLICATION NUMBER: US/09/396,154

; PRIOR FILING DATE: 1999-09-15

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494

; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379

; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19

; NUMBER OF SEQ ID NOS: 93

; SOFTWARE: FastSeq for Windows Version 3.0

; SEQ ID NO 31

; LENGTH: 550

; TYPE: PRT

; ORGANISM: Photinus pyralis

US-10-378-168-31

Query Match 69.2%; Score 1954.5; DB 15; Length 550;

Best Local Similarity 68.6%; Pred. No. 2e-180;

Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;

Qy 4 MENDENIVGPEPPIEBSAGAQRLKYMRYAKL-GAIAFTNALTGVDVYAEYLEKS 62

Db 1 MEDAKNIKGPAPFPLEDTAGEQLHKAMKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 60

Qy 63 CCLGEALKNYGLVVDGRIALCSENEEFFIPVLGLFIGVGVAPTNEIYTLRELVSGLI 122

Db 61 VRLAEAMKRYGLNTNRIIVVCSNSLQFPFVLGALFIGVAVAPANDIYNERELNSMNI 120

Qy 123 SKPTIVFSSKGLDKVITVQKTTAIIIVLDSKVDYRGVQSMDFIKKNTPOQFGKSS 182

Db 121 SQPTVVFVSKGLQKILNVOKLPIIQKIIMDSKTDYQFQSMYTFVTSHLPFGNEVD 180

Qy 183 FKTVEVNRKEQVALIMNSSGTGLPKGVOLTHENAVTRFSGHARDPIYGNQVSPGTAITV 242

Db 181 FVPSFDRKTIALLIMNSSGTGLPKGVLPHTACVRFSGHARDPIFGNIIIPDTAILSV 240

Qy 243 VPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLPAILNREL 302

Db 241 VPFHGFGMFTTGLYLCGFRVLMYRFEELFLRLSLQDYKIQSALLVPTLSPFAKSTL 300

Qy 303 LDKYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRQCYGLTETTSAILIITPEGDDKPG 362

Db 301 IDKYDLSNLHEIASGAPLSKEIGEAVAKRFLHLPGRIRQCYGLTETTSAILIITPEGDDKPG 360

Qy 363 ASGVKVPFLFAKVIDLDTKTKTLGNRRGEVCVKGPMKMGYVNDPENTREIIDEEGWLHT 422

Db 361 AVGVKVPFFFAKVVLDLTGTGLVNRQGLCVRGPMIMSGYVNNPEATNALIDKQWLHS 420

Qy 423 GDIGYDDEKHFFIVDRKSLIKYKGVQVAPAELESILLQHPNIFDAGVAGLPDDIAGEL 482

Db 421 GDIAWDEDEHFFIVDRKSLIKYKGVQVAPAELESILLQHPNIFDAGVAGLPDDDAGEL 480

Qy 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542

Db 481 PAAVVVLEHGKMTKEKEIVDYVASQVTTAKKLKRGVVFVDEVPKGLTGKIDKARKIREILI 540

Qy 543 K 543

Db 541 K 541

RESULT 14

US-10-122-706-4

; Sequence 4, Application US/10122706

; Publication No. US20030119012A1

; GENERAL INFORMATION:

; APPLICANT: Srinivasan, Maithreyan

; APPLICANT: Reifler, Michael

; TITLE OF INVENTION: Sulfurylase-Luciferase Fusion Proteins

; FILE REFERENCE: 21465-504

; CURRENT APPLICATION NUMBER: US/10/122,706

; CURRENT FILING DATE: 2002-07-01

; PRIOR APPLICATION NUMBER: 60/335,949

; PRIOR FILING DATE: 2001-10-30

; NUMBER OF SEQ ID NOS: 31

; SOFTWARE: PatentIn Ver. 2.1

; SEQ ID NO 4

; LENGTH: 1172

; TYPE: PRT

; ORGANISM: Escherichia coli

US-10-122-706-4

Query Match 69.2%; Score 1954.5; DB 14; Length 1172;

Best Local Similarity 68.6%; Pred. No. 6.9e-180;

Matches 371; Conservative 74; Mismatches 95; Indels 1; Gaps 1;

Qy 4 MENDENIVGPEPPIEBSAGAQRLKYMRYAKL-GAIAFTNALTGVDVYAEYLEKS 62

Db 109 MEDAKNIKGPAPFPLEDTAGEQLHKAMKRYALVPGTIAFTDAHIEVNTIYAEYFEMS 168

Qy 63 CCLGEALKNYGLVVDGRIALCSENEEFFIPVLGLFIGVGVAPTNEIYTLRELVSGLI 122

Db 169 VRLAEAMKRYGLNTNRIIVVCSNSLQFPFVLGALFIGVAVAPANDIYNERELNSMNI 228

Qy 123 SKPTIVFSSKGLDKVITVQKTTAIIIVLDSKVDYRGVQSMDFIKKNTPOQFGKSS 182

Db 229 SQPTVVFVSKGLQKILNVOKLPIIQKIIMDSKTDYQFQSMYTFVTSHLPFGNEVD 288

Qy 183 FKTVEVNRKEQVALIMNSSGTGLPKGVOLTHENAVTRFSGHARDPIYGNQVSPGTAITV 242

Db 289 FVPSFDRKTIALLIMNSSGTGLPKGVLPHTACVRFSGHARDPIFGNIIIPDTAILSV 348

Qy 243 VPFHGFGMFTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTLPAILNREL 302

Db 349 VPFHGFGMFTTGLYLCGFRVLMYRFEELFLRLSLQDYKIQSALLVPTLSPFAKSTL 408

Qy 303 LDKYDLSNLVEIASGAPLSKEIGEAVARFNLPGVRQCYGLTETTSAILIITPEGDDKPG 362

Db 409 IDKYDLSNLHEIASGAPLSKEIGEAVAKRFLHLPGRIRQCYGLTETTSAILIITPEGDDKPG 468

Qy 363 ASGVKVPFLFAKVIDLDTKTKTLGNRRGEVCVKGPMKMGYVNDPENTREIIDEEGWLHT 422

Db 469 AVGVKVPFFFAKVVLDLTGTGLVNRQGLCVRGPMIMSGYVNNPEATNALIDKQWLHS 528

Qy 423 GDIGYDDEKHFFIVDRKSLIKYKGVQVAPAELESILLQHPNIFDAGVAGLPDDIAGEL 482

Db 529 GDIAWDEDEHFFIVDRKSLIKYKGVQVAPAELESILLQHPNIFDAGVAGLPDDDAGEL 588

Qy 483 PGAVVLEKSKMTEKEVMDYVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542

Db 589 PAAVVVLEHGKMTKEKEIVDYVASQVTTAKKLKRGVVFVDEVPKGLTGKIDKARKIREILI 648

Qy 543 K 543

; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patent in Ver. 2.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-33

Query Match 64.8%; Score 1828; DB 10; Length 552;
Best Local Similarity 62.5%; Pred. No. 3.8e-168;
Matches 338; Conservative 92; Mismatches 109; Indels 2; Gaps 2;
QY 4 MENDENIVGPEPFPIEGSAGAKRKYMDRYAKL-GAIAFTNALTGVDVYAEYLEKS 62
Db 1 MSIENNILGPPPPYPLEEGTAGELHRAISRYAAVPGTLAYTDVHTELEVYKEFLDVT 60
QY 63 CCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
Db 61 CRLAEAMKNYGLGLOHTISVCSENCVOFFMPICAAALYVGVAAPTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKKGDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
Db 121 SQPTVVFTSRNSLQKILGVQSRPLPIIKKIIIDGKKDYLGYSQSMQFMKEHVPAFNVSA 180
QY 183 FKTVEVNRKEQVALIMNMSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV 242
Db 181 FKPLSFD-LDRVACIMNMSGSTGLPKGVPISHENTTYRFSHCRDPVFGNQIIPDTTILCA 239
QY 243 VPHHFGMFTTLYGTCGFRIVMLTKFDBETFLKLDYKSSVILVPTLFAILNRSEL 302
Db 240 VPFHAFGTFTNLYGICGFHVLMYRFNEHLFLQTLQDYKQCSALLVPTVLAFKAKNPL 299
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSALIIITPEGDDKPG 362
Db 300 VDKYDLSNLHEIASGGAPLSKEISEIAAKRFLPGIRQGYGLTETTCALIVITAESEFKLG 359
QY 363 ASGVVPLFKAKVIDLTKTGLGNRRGEVCKVGMKMGYVDNPEATREIIDEGWLHT 422
Db 360 AVGWVFPYSLKVLDTNCKLGNERGEICFKGPMIMKGYINNPEATRELIDEGWTHS 419
QY 423 GDIGYDEEKEHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
Db 420 GDIGYFDEGHVIVDRKSLIKYGYQVPPAELEALLQHPFIEDAGVAGVDEVAGDL 479
QY 483 PGAVVLEKGSMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 480 PGAVVLEKGSITEKEIQDYVAGQVTSKLLRGGVFVKEVPGTGTIDTRKIKEILI 539
QY 543 K 543
Db 540 K 540

RESULT 18
US-10-378-168-33
; Sequence 33, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: The most stable luciferases and methods of
; FILE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT APPLICATION NUMBER: US/10/378,168
; CURRENT FILING DATE: 2003-02-28
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 09/156,946
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18

; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: PCT/US98/19494
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/059,379
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: Fast-Seq for Windows Version 3.0
; SEQ ID NO 33
; LENGTH: 552
; TYPE: PRT
; ORGANISM: Photuris pennsylvanica
US-10-378-168-33
Query Match 64.8%; Score 1828; DB 15; Length 552;
Best Local Similarity 62.5%; Pred. No. 3.8e-168;
Matches 338; Conservative 92; Mismatches 109; Indels 2; Gaps 2;
QY 4 MENDENIVGPEPFPIEGSAGAKRKYMDRYAKL-GAIAFTNALTGVDVYAEYLEKS 62
Db 1 MSIENNILGPPPPYPLEEGTAGELHRAISRYAAVPGTLAYTDVHTELEVYKEFLDVT 60
QY 63 CCLGEALKNYGLVVDGRIALCSENCEEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSLGI 122
Db 61 CRLAEAMKNYGLGLOHTISVCSENCVOFFMPICAAALYVGVAAPTNDIYNERELYNLSI 120
QY 123 SKPTIVFSSKKGDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSS 182
Db 121 SQPTVVFTSRNSLQKILGVQSRPLPIIKKIIIDGKKDYLGYSQSMQFMKEHVPAFNVSA 180
QY 183 FKTVEVNRKEQVALIMNMSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV 242
Db 181 FKPLSFD-LDRVACIMNMSGSTGLPKGVPISHENTTYRFSHCRDPVFGNQIIPDTTILCA 239
QY 243 VPHHFGMFTTLYGTCGFRIVMLTKFDBETFLKLDYKSSVILVPTLFAILNRSEL 302
Db 240 VPFHAFGTFTNLYGICGFHVLMYRFNEHLFLQTLQDYKQCSALLVPTVLAFKAKNPL 299
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSALIIITPEGDDKPG 362
Db 300 VDKYDLSNLHEIASGGAPLSKEISEIAAKRFLPGIRQGYGLTETTCALIVITAESEFKLG 359
QY 363 ASGVVPLFKAKVIDLTKTGLGNRRGEVCKVGMKMGYVDNPEATREIIDEGWLHT 422
Db 360 AVGWVFPYSLKVLDTNCKLGNERGEICFKGPMIMKGYINNPEATRELIDEGWTHS 419
QY 423 GDIGYDEEKEHFTVDRKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
Db 420 GDIGYFDEGHVIVDRKSLIKYGYQVPPAELEALLQHPFIEDAGVAGVDEVAGDL 479
QY 483 PGAVVLEKGSMTKEVMDYVASQVSNKRLGGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 480 PGAVVLEKGSITEKEIQDYVAGQVTSKLLRGGVFVKEVPGTGTIDTRKIKEILI 539
QY 543 K 543
Db 540 K 540

RESULT 19
US-09-838-469-24
; Sequence 24, Application US/09838469
; Publication No. US20030068801A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: THERMOSTABLE LUCIFERASES AND METHODS OF PRODUCTION
; FILE OF INVENTION: 341.006US1
; CURRENT APPLICATION NUMBER: US/09/838,469
; CURRENT FILING DATE: 2001-04-19
; PRIOR APPLICATION NUMBER: US/09/156,946
; PRIOR FILING DATE: 1998-09-18
; NUMBER OF SEQ ID NOS: 41
; SOFTWARE: Patent in Ver. 2.0

; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Beetle
US-09-838-469-24

Query Match
Best Local Similarity 60.4%; Score 1706.5; DB 10; Length 544;
Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDTVAEYLEKSCCL 65
Db 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRYADIPGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGLFVGVGAPTNIEYTLRELHSLGISKP 125
Db 63 AESFKYGLKQNDTIAVCSENGLQFLPVIASYLGIIIVAPVNDKYIERLIHSLGIVKP 122

QY 126 TIVFSKKGDLKVIITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSKSIETIIILDNEDLGGYQCLNMFISQNSDNLVKKFKP 182

QY 186 VEVNRKEQVALIMNSGSLGPKGVOLTHENAVTRFSEARDPYIGNOVSPGTAILTVVPF 245
Db 183 YSFNRDDQVALLIMFSGTGLPKGVMLTHKNIVARFSLAKOPTFGNAINPTTALTIVVPF 242

QY 246 HHGFGMTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILPTLFAILNRSELLDK 305
Db 243 HHGFGMTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILPTLFAILNRSELLDK 302

QY 306 YDLSNLVEIASGAPLSKEIGAVARRNLPVROGYGLTETTSAILIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVROGYGLTETTSAVLITPKGDAKPGSTG 362

QY 366 KVVPLFKAKVIDLTKTLGNRRGEVCVKGMKGVVDNPEATREIIDEGLMHTGDI 425
Db 363 KIVPFHAKVVDPTTKILGNPEPGLYFKGPMIMKGYNNNEATKAILDNDGLRSGLI 422

QY 426 GYDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVLEKSGKSMTEKVMYDVASOVSNKRLRGVRFVDEVPKGLTKIDGKAIRELK 543
Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGVRFVDEVPKGLTKIDRKLVRQMFKE 540

RESULT 20
US-09-813-279B-2
; Sequence 2, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; CURRENT APPLICATION NUMBER: US/09/813,279B
; PRIOR FILING DATE: 2002-11-13
; PRIOR FILING DATE: 2001-02-16
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-2

Query Match
Best Local Similarity 60.4%; Score 1706.5; DB 10; Length 544;
Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDTVAEYLEKSCCL 65
Db 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRYADIPGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGLFVGVGAPTNIEYTLRELHSLGISKP 125
Db 63 AESFKYGLKQNDTIAVCSENGLQFLPVIASYLGIIIVAPVNDKYIERLIHSLGIVKP 122

QY 126 TIVFSKKGDLKVIITVQKTVAITKIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSFT 185
Db 123 RIVFCSKNTFOKVLNVKSKLSKSIETIIILDNEDLGGYQCLNMFISQNSDNLVKKFKP 182

QY 186 VEVNRKEQVALIMNSGSLGPKGVOLTHENAVTRFSEARDPYIGNOVSPGTAILTVVPF 245
Db 183 YSFNRDDQVALLIMFSGTGLPKGVMLTHKNIVARFSLAKOPTFGNAINPTTALTIVVPF 242

QY 246 HHGFGMTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILPTLFAILNRSELLDK 305
Db 243 HHGFGMTTGLYTCGFRIVMLTKFDEETFLKTLQDYKCSSVILPTLFAILNRSELLDK 302

QY 306 YDLSNLVEIASGAPLSKEIGAVARRNLPVROGYGLTETTSAILIITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVROGYGLTETTSAVLITPKGDAKPGSTG 362

QY 366 KVVPLFKAKVIDLTKTLGNRRGEVCVKGMKGVVDNPEATREIIDEGLMHTGDI 425
Db 363 KIVPFHAKVVDPTTKILGNPEPGLYFKGPMIMKGYNNNEATKAILDNDGLRSGLI 422

QY 426 GYDEEKHFIVDRLSKLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAGELPGA 485
Db 423 AYDNDGHFIVDRLSKLIKYGYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

QY 486 VVLEKSGKSMTEKVMYDVASOVSNKRLRGVRFVDEVPKGLTKIDGKAIRELK 543
Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGVRFVDEVPKGLTKIDRKLVRQMFKE 540

RESULT 21
US-09-813-279B-4
; Sequence 4, Application US/09813279B
; Publication No. US20030104507A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith
; APPLICANT: Hannah, Rita
; APPLICANT: Moravec, Richard A
; TITLE OF INVENTION: IMPROVED METHOD FOR DETECTION OF ATP
; CURRENT APPLICATION NUMBER: US/09/813,279B
; PRIOR FILING DATE: 2002-11-13
; PRIOR FILING DATE: 2001-02-16
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 4
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant of LucPpe2 luciferase
US-09-813-279B-4

Query Match
Best Local Similarity 60.4%; Score 1706.5; DB 10; Length 544;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

QY 7 DENIVGPEPPYPIEGSAGALRYKMDRYAKL-GAIAFTNALTGVDTVAEYLEKSCCL 65
Db 3 DKNILYGPPEPPYPLEDGTAGEQMFDAISRYAALPGCIALTNAHTKENVLYEFLKLSCL 62

QY 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGLFVGVGAPTNIEYTLRELHSLGISKP 125

Db 63 ABSFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELHSGIVKP 122
Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPKT 185
Db 123 RIVFCSKNTFKVNLVSKSLKSIETIIILDLNEDLGGYQCLNFIQNSDSNLDVKKFKP 182
Qy 186 VEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAIITVVVPF 245
Db 183 YSFNRDQVALIMFSSGTTGLPKGVMLTKHNIIVARFSLAKDPTFGNAINPTTIAITV1PF 242
Qy 246 HHGFGMTTGLYLTGCFRIUMLTKFDBETFLKLODYKSSVILVPTLFAILNRSLLDK 305
Db 243 HHGFGMMTTLGYFTCGFRVVLMTTBEKFLQSLQDYKVESTLLVPTLMAFLAKSALVEK 302
Qy 306 YDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSAVLITPKGDAKPGSTG 362
Qy 366 KVPFLFAKVIDIDTKTLGPNRGEVCVKGPMKGYVDNPEATREIIDEGWHLTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGPNBEGELYFKGPMKGYNNNEATKAIIDNDGWLRSGL 422
Qy 426 GYDDEKHFIVDRLSKLIKYGYQVPPABESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYDNDGHEFYIVDRLSKLIKYGYQVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
Qy 486 VVLEKGSMTKEVMNDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNQIYQDYVASQVSTAKWLKRGVGFDEIPKGSTGKIDRKLQMLEX 540

RESULT 22

US-10-378-168-24
; Sequence 24, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT FILING DATE: 2003-02-28
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 24
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-24

Query Match 60.4%; Score 1706.5; DB 15; Length 544;
Best Local Similarity 60.6%; Pred. No. 2.4e-156;
Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

Qy 7 DENIVGPEFPPIEGSAGAKRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 65
Db 3 DKXILYGPFPFLEDTAGEQMFDAISRYADIPGCIATNAHTKENVLYEFLKLSCL 62
Qy 66 GEALKNYGLVVDGRIALCSCNECEFPFIVLAGLFTGVGVPNTYIYTLRELVHSLGSKP 125
Db 63 ABSFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELHSGIVKP 122

Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPKT 185
Db 123 RIVFCSKNTFKVNLVSKSLKSIETIIILDLNEDLGGYQCLNFIQNSDSNLDVKKFKP 182
Qy 186 VEVNRKEQVALIMNSGSGTGLPKGVOLTHENAVTRFSHARDPIYGNVSPGTAIITVVVPF 245
Db 183 YSFNRDQVALIMFSSGTTGLPKGVMLTKHNIIVARFSLAKDPTFGNAINPTTIAITV1PF 242
Qy 246 HHGFGMTTGLYLTGCFRIUMLTKFDBETFLKLODYKSSVILVPTLFAILNRSLLDK 305
Db 243 HHGFGMMTTLGYFTCGFRVVLMTTBEKFLQSLQDYKVESTLLVPTLMAFLAKSALVEK 302
Qy 306 YDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDKPGASG 365
Db 303 YDLSHLKEIASGAPLSKEIGEMVKRFLNFRVQGYGLTETTSAVLITPKGDAKPGSTG 362
Qy 366 KVPFLFAKVIDIDTKTLGPNRGEVCVKGPMKGYVDNPEATREIIDEGWHLTGDI 425
Db 363 KIVPLHAKVVDPTTGKILGPNBEGELYFKGPMKGYNNNEATKAIIDNDGWLRSGL 422
Qy 426 GYDDEKHFIVDRLSKLIKYGYQVPPABESVLLQHPNIFDAGVAGVDPDPIAGELPGA 485
Db 423 AYDNDGHEFYIVDRLSKLIKYGYQVAPABIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
Qy 486 VVLEKGSMTKEVMNDYVASQVSNARLGGVRFVDEVPKGLTGKIDGKAIREILKK 543
Db 483 GVVVQTKYLNQIYQDYVASQVSTAKWLKRGVGFDEIPKGSTGKIDRKLQMLEX 540

RESULT 23

US-10-378-168-45
; Sequence 45, Application US/10378168
; Publication No. US20030232404A1
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; TITLE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT FILING DATE: 2003-02-28
; CURRENT APPLICATION NUMBER: US/10/378,168
; PRIOR FILING DATE: 1999-09-15
; PRIOR APPLICATION NUMBER: US/09/396,154
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: EARLIER FILING DATE: 1998-09-18
; PRIOR FILING DATE: EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 45
; LENGTH: 544
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Mutant luciferase
US-10-378-168-45

Query Match 60.4%; Score 1706.5; DB 15; Length 544;
Best Local Similarity 60.6%; Pred. No. 2.4e-156;
Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

Qy 7 DENIVGPEFPPIEGSAGAKRKYMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 65
Db 3 DKXILYGPFPFLEDTAGEQMFDAISRYAALPGCIATNAHTKENVLYEFLKLSCL 62
Qy 66 GEALKNYGLVVDGRIALCSCNECEFPFIVLAGLFTGVGVPNTYIYTLRELVHSLGSKP 125
Db 63 ABSFKYGLKQNDTIAVCSNSLQFLPVIASLYLGIIVAPVNDKYIERELHSGIVKP 122
Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKGSSPKT 185

Db 123 RIVFCSKNTFQKVLNVKSKLSIETIIILDLNEDLGGYQCLNPFISQSDNLDVKKFKP 182
 Qy 186 VEVNRKEQVALIMNSSGGSTGLPKGVQLTHENAIVTRFSHARDPIYGNQVSPGTAILTVVVF 245
 Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKDPFTGNAINPTSAITVIPP 242
 Qy 246 HGFQGMFTTLYLTCGFRVLMTKDEETFLKTDQYKSSVILVPTLFAILNRSLLDK 305
 Db 243 HGFQGMFTTLYLTCGFRVLMTKDEETFLKTDQYKSSVILVPTLFAILNRSLLDK 302
 Qy 306 YDLSNLVEIASGGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 365
 Db 303 YDLSHLKEIASGGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 362
 Qy 366 KVPFLFKAKEVIDLTKTLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPFLHAKVVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
 Qy 426 GYDDEEKHFFIVDRLSKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGELPGA 485
 Db 423 AYDNDGHHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
 Qy 486 VVLEKSKMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTKIDGKAIKREILKK 543
 Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFELDEIPKGSTGKIDRKLQMLEK 540

RESULT 24

US-10-655-878-2
 ; Sequence 2, Application US/10655878
 ; Publication No. US20040101922A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Somberg, Richard
 ; APPLICANT: Goueli, Said A.
 ; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
 ; FILE REFERENCE: 03-772
 ; CURRENT APPLICATION NUMBER: US/10/655,878
 ; PRIOR FILING DATE: 2003-09-05
 ; PRIOR FILING DATE: 2002-09-06
 ; NUMBER OF SEQ ID NOS: 8
 ; SOFTWARE: Patent in version 3.2
 ; SEQ ID NO 2
 ; LENGTH: 544
 ; TYPE: PRT
 ; ORGANISM: Photuris pennsylvanica
 US-10-655-878-2

Query Match 60.4%; Score 1706.5; DB 16; Length 544;
 Best Local Similarity 60.6%; Pred. No. 2.4e-156;
 Matches 326; Conservative 82; Mismatches 129; Indels 1; Gaps 1;

Qy 7 DENIVYGPPEPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 65
 Db 3 DKNILYGPPEPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 62
 Qy 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGAGIFGVGAPTNRIYTLRELHSLGSKP 125
 Db 63 AESFKYGLKQNDTIAVCSNGLQFPVLVIAISLYLGIIVAPVNDKYIERELHSLGIVKP 122
 Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYQYQSMDFIKNTPOGFGSSFKT 185
 Db 123 RIVFCSKNTFQKVLNVKSKLSIETIIILDLNEDLGGYQCLNPFISQSDNLDVKKFKP 182
 Qy 186 VEVNRKEQVALIMNSSGGSTGLPKGVQLTHENAIVTRFSHARDPIYGNQVSPGTAILTVVVF 245
 Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKDPFTGNAINPTSAITVIPP 242
 Qy 246 HGFQGMFTTLYLTCGFRVLMTKDEETFLKTDQYKSSVILVPTLFAILNRSLLDK 305
 Db 243 HGFQGMFTTLYLTCGFRVLMTKDEETFLKTDQYKSSVILVPTLFAILNRSLLDK 302
 Qy 306 YDLSNLVEIASGGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 365
 Db 303 YDLSHLKEIASGGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 362
 Qy 366 KVPFLFKAKEVIDLTKTLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPFLHAKVVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
 Qy 426 GYDDEEKHFFIVDRLSKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGELPGA 485
 Db 423 AYDNDGHHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
 Qy 486 VVLEKSKMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTKIDGKAIKREILKK 543
 Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFELDEIPKGSTGKIDRKLQMLEK 540

Db 303 YDLSHLKEIASGGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 362
 Qy 366 KVPFLFKAKEVIDLTKTLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPFLHAKVVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
 Qy 426 GYDDEEKHFFIVDRLSKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGELPGA 485
 Db 423 AYDNDGHHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482
 Qy 486 VVLEKSKMTEKVMYDVASQVSNKRLRGVRFVDEVPKGLTKIDGKAIKREILKK 543
 Db 483 GVVVOTGKYLNEQIVQDYVASQVSTAKWLRGGVVKFELDEIPKGSTGKIDRKLQMLEK 540

RESULT 25

US-10-655-878-4
 ; Sequence 4, Application US/10655878
 ; Publication No. US20040101922A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Somberg, Richard
 ; APPLICANT: Goueli, Said A.
 ; TITLE OF INVENTION: Method for Detecting Transferase Enzymatic Activity
 ; FILE REFERENCE: 03-772
 ; CURRENT APPLICATION NUMBER: US/10/655,878
 ; PRIOR FILING DATE: 2003-09-05
 ; PRIOR FILING DATE: 2002-09-06
 ; NUMBER OF SEQ ID NOS: 8
 ; SOFTWARE: Patent in version 3.2
 ; SEQ ID NO 4
 ; LENGTH: 544
 ; TYPE: PRT
 ; ORGANISM: Photuris pennsylvanica
 US-10-655-878-4

Query Match 60.4%; Score 1706.5; DB 16; Length 544;
 Best Local Similarity 60.6%; Pred. No. 2.4e-156;
 Matches 326; Conservative 83; Mismatches 128; Indels 1; Gaps 1;

Qy 7 DENIVYGPPEPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 65
 Db 3 DKNILYGPPEPIEBSAGALRYKMDRYAKL-GAIAFTNALTGVDYTYAEYLEKSCCL 62
 Qy 66 GEALKNYGLVVDGRIALCSENCEEFFIPVLGAGIFGVGAPTNRIYTLRELHSLGSKP 125
 Db 63 AESFKYGLKQNDTIAVCSNGLQFPVLVIAISLYLGIIVAPVNDKYIERELHSLGIVKP 122
 Qy 126 TIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYQYQSMDFIKNTPOGFGSSFKT 185
 Db 123 RIVFCSKNTFQKVLNVKSKLSIETIIILDLNEDLGGYQCLNPFISQSDNLDVKKFKP 182
 Qy 186 VEVNRKEQVALIMNSSGGSTGLPKGVQLTHENAIVTRFSHARDPIYGNQVSPGTAILTVVVF 245
 Db 183 YSFNRDDQVASIMFSSGTTGLPKGVMLTHKNIVARFSAKDPFTGNAINPTSAITVIPP 242
 Qy 246 HGFQGMFTTLYLTCGFRVLMTKDEETFLKTDQYKSSVILVPTLFAILNRSLLDK 305
 Db 243 HGFQGMFTTLYLTCGFRVLMTKDEETFLKTDQYKSSVILVPTLFAILNRSLLDK 302
 Qy 306 YDLSNLVEIASGGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 365
 Db 303 YDLSHLKEIASGGAPLSKEIGAVARRFNLPGVQYGLTETTSATIIITPEGDDKPGASG 362
 Qy 366 KVPFLFKAKEVIDLTKTLGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 425
 Db 363 KIVPFLHAKVVDPTTKILGNRRGEVCKGPMKMGYVNDPEATREIIDEGLWHTGDI 422
 Qy 426 GYDDEEKHFFIVDRLSKSLIKYQVPPAELESVLLQHPNIFDAGVAGVDDPIAGELPGA 485
 Db 423 AYDNDGHHFYIVDRLSKSLIKYQVAPAEIEGILLQHPYIVDAGVTGIPDEAAGELPAA 482

us-09-581-241a-8.rapb

Page 14

QY 486 VVLEKGSMTKEVMDYVASQVSNAKRLGGVYRFVDEVPKGLTGKIDGKAIREILKK 543
 ||: ||: | : ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| : : : : :
 Db 483 GVVQTKLYNQIVQDYVASQVSTAKWLRGGVKFLDEIPKSTGKIDRKVLQMLEK 540

Search completed: July 22, 2004, 08:33:30
Job time : 43 secs

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OM protein - protein search, using sw model

Run on: July 22, 2004, 08:02:44 ; Search time 15.6667 Seconds
(without alignment)

1805.811 Million cell updates/sec

Title: US-09-581-241A-8

Perfect score: 2823

Sequence: 1 MENMENDENVYGEFFVPI.....TGKIDGKAIRILKPKVAKM 548

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 389414 seqs, 51625971 residues

Total number of hits satisfying chosen parameters: 389414

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database :

Issued Patents AA: *
1: /cgn2_6/ptodata/2/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/2/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/2/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/2/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/2/iaa/PTUS_COMB.pep:*
6: /cgn2_6/ptodata/2/iaa/backfiles.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2823	100.0	548	1	US-07-903-047-8
2	2823	100.0	548	3	US-09-380-061B-16
3	2818	99.8	548	2	US-08-460-934-2
4	2818	99.8	548	2	US-08-782-118-2
5	2815	99.7	548	4	US-08-487-183A-14
6	2814	99.7	548	4	US-09-396-154-28
7	2813	99.6	636	2	US-08-460-934-9
8	2813	99.6	636	2	US-08-782-118-9
9	2808	99.5	548	3	US-09-111-752-14
10	2808	99.3	548	4	US-09-602-628-10
11	2800	99.2	568	2	US-08-460-934-6
12	2800	99.2	568	2	US-08-782-118-6
13	2702	95.7	552	3	US-09-111-752-10
14	2699	95.3	548	1	US-07-675-211-2
15	2689	95.3	548	1	US-07-903-047-2
16	2689	95.3	548	1	US-08-076-042-2
17	2689	95.3	548	3	US-09-380-061B-14
18	2689	95.3	548	4	US-09-396-154-27
19	2680	94.9	548	4	US-08-487-183A-12
20	2589	91.7	552	3	US-09-111-752-7
21	2399	85.0	552	3	US-09-111-752-5
22	2344.5	83.0	548	3	US-09-380-061B-18
23	2344.5	83.0	548	4	US-08-487-183A-16
24	2344.5	83.0	548	4	US-09-396-154-29
25	1968.5	69.7	547	3	US-09-380-061B-20
26	1968.5	69.7	547	4	US-09-396-154-32
27	1965.5	69.6	550	1	US-08-354-240A-4

28	1965.5	69.6	550	4	US-09-602-628-8	Sequence 8, Appli
29	1965.5	69.6	550	4	US-09-577-424-2	Sequence 2, Appli
30	1959.5	69.4	550	4	US-09-602-628-4	Sequence 4, Appli
31	1956.5	69.3	550	1	US-08-354-240A-6	Sequence 6, Appli
32	1954.5	69.2	549	1	US-08-354-240A-2	Sequence 2, Appli
33	1954.5	69.2	550	3	US-08-867-352-23	Sequence 23, Appli
34	1954.5	69.2	550	3	US-09-380-061B-21	Sequence 21, Appli
35	1954.5	69.2	550	4	US-09-602-628-2	Sequence 2, Appli
36	1954.5	69.2	550	4	US-09-602-628-12	Sequence 12, Appli
37	1954.5	69.2	550	4	US-09-396-154-31	Sequence 31, Appli
38	1954.5	69.2	815	1	US-08-122-520C-9	Sequence 9, Appli
39	1954.5	69.2	1242	4	US-09-488-270A-2	Sequence 2, Appli
40	1948.5	69.0	550	3	US-08-718-425-2	Sequence 2, Appli
41	1948.5	69.0	550	3	US-08-875-277A-2	Sequence 2, Appli
42	1946.5	69.0	550	3	US-09-380-061B-6	Sequence 6, Appli
43	1943.5	68.8	550	3	US-08-718-425-5	Sequence 5, Appli
44	1943.5	68.8	550	4	US-09-602-628-6	Sequence 6, Appli
45	1941.5	68.8	550	4	US-08-875-277A-4	Sequence 4, Appli
46	1939.5	68.7	550	4	US-08-487-183A-10	Sequence 10, Appli
47	1914.5	67.8	561	2	US-08-474-169-8	Sequence 8, Appli
48	1893	67.1	548	4	US-09-396-154-30	Sequence 30, Appli
49	1828	64.8	552	1	US-08-231-729B-6	Sequence 6, Appli
50	1828	64.8	552	4	US-09-396-154-33	Sequence 33, Appli
51	1706.5	60.4	544	4	US-09-396-154-24	Sequence 24, Appli
52	1706.5	60.4	544	4	US-09-396-154-45	Sequence 45, Appli
53	1702.5	60.3	544	4	US-09-396-154-44	Sequence 44, Appli
54	1671.5	59.2	544	4	US-09-396-154-23	Sequence 23, Appli
55	1667.5	59.1	544	4	US-09-396-154-19	Sequence 19, Appli
56	1646.5	58.3	544	4	US-09-396-154-22	Sequence 22, Appli
57	1643.5	58.2	544	4	US-09-396-154-18	Sequence 18, Appli
58	1641.5	58.0	544	4	US-09-396-154-20	Sequence 20, Appli
59	1638.5	58.0	544	4	US-09-396-154-15	Sequence 15, Appli
60	1638.5	58.0	544	4	US-09-396-154-21	Sequence 21, Appli
61	1635.5	57.9	544	4	US-09-396-154-17	Sequence 17, Appli
62	1634.5	57.9	544	4	US-09-396-154-14	Sequence 14, Appli
63	1634.5	57.9	545	4	US-09-396-154-25	Sequence 25, Appli
64	1629.5	57.7	544	4	US-09-396-154-16	Sequence 16, Appli
65	1626.5	57.6	545	4	US-09-396-154-37	Sequence 37, Appli
66	1384	49.0	546	4	US-09-396-154-34	Sequence 34, Appli
67	1363	48.3	542	4	US-09-396-154-47	Sequence 47, Appli
68	1363	48.3	543	4	US-08-487-183A-4	Sequence 4, Appli
69	1363	48.3	543	4	US-08-487-183A-6	Sequence 6, Appli
70	1363	48.3	543	4	US-09-396-154-36	Sequence 36, Appli
71	1359	48.1	543	4	US-08-487-183A-8	Sequence 8, Appli
72	1354	48.0	543	4	US-08-487-183A-2	Sequence 2, Appli
73	1354	48.0	543	4	US-09-396-154-35	Sequence 35, Appli
74	1352	47.9	542	4	US-09-396-154-26	Sequence 26, Appli
75	739.5	25.8	535	4	US-08-969-046-2	Sequence 2, Appli
76	735.5	25.7	540	3	US-08-991-677-8	Sequence 8, Appli
77	723.5	25.6	544	4	US-09-615-192A-349	Sequence 349, App
78	710	25.2	570	4	US-08-969-046-4	Sequence 4, Appli
79	682	24.2	551	4	US-09-615-192A-348	Sequence 348, App
80	584	20.7	578	3	US-08-981-215-1	Sequence 1, Appli
81	542	19.2	566	4	US-09-252-991A-17972	Sequence 17972, A
82	539	19.1	584	4	US-09-489-039A-14137	Sequence 14137, A
83	530	18.8	568	4	US-03-328-352-5460	Sequence 5460, Ap
84	500	17.7	562	4	US-03-252-991A-17971	Sequence 17971, A
85	490.5	17.4	589	4	US-09-328-352-6901	Sequence 6901, Ap
86	476	16.9	180	4	US-09-615-192A-281	Sequence 281, App
87	466	16.5	582	4	US-09-543-681A-4556	Sequence 4556, Ap
88	429	15.2	543	4	US-09-134-001C-4423	Sequence 4423, Ap
89	427	15.1	601	4	US-09-252-991A-31225	Sequence 31225, A
90	413	14.6	548	4	US-05-543-681A-6631	Sequence 6631, Ap
91	403	14.3	661	4	US-05-252-991A-20392	Sequence 20392, A
92	387	13.7	562	4	US-09-489-039A-9564	Sequence 9564, Ap
93	374	13.2	523	4	US-09-134-000C-6177	Sequence 6177, Ap
94	347.5	12.3	583	4	US-09-252-991A-20324	Sequence 20324, A
95	336	11.9	649	4	US-09-418-963-2	Sequence 2, Appli
96	334	11.8	548	4	US-09-328-352-7909	Sequence 7909, Ap
97	325	11.5	119	4	US-08-615-192A-282	Sequence 282, App
98	321.5	11.4	488	4	US-08-311-731A-283	Sequence 283, App
99	316.5	11.2	555	4	US-09-252-991A-20604	Sequence 20604, A
100	311	11.0	497	4	US-09-134-001C-5114	Sequence 5114, Ap

ALIGNMENTS

```

RESULT 1
US-07-903-047-8
; Sequence 8, Application US/07903047
; Patent No. 5229285
; GENERAL INFORMATION:
; APPLICANT: Kajiyama, Naoki
; APPLICANT: Nakano, Eiichi
; TITLE OF INVENTION: Thermostable Luciferase Gene of Firefly,
; TITLE OF INVENTION: Thermostable Luciferase Gene of Firefly,
; TITLE OF INVENTION: Thermostable Luciferase Gene of Firefly,
; TITLE OF INVENTION: DNA, And Process For The Preparation Of Thermostable
; TITLE OF INVENTION: Luciferase Of Firefly
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Pennie & Edmonds
; STREET: 1155 Avenue of the Americas
; CITY: New York
; STATE: New York
; COUNTRY: U.S.A.
; ZIP: 10036-2711
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/903,047
; FILING DATE: 19920623
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: Misrock, S. Leslie
; REGISTRATION NUMBER: 18,872
; REFERENCE/DOCKET NUMBER: 7005-048
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212 790-9090
; TELEFAX: 212 869-8864/9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 8:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
US-07-903-047-8

Query Match          100.0%; Score 2823; DB 1; Length 548;
Best Local Similarity 100.0%; Pred. No. 3.9e-289;
Matches 548; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 MENMENDENIVGPEFFPIEGSAGALQRLKYMRYAKLGAIAFTNALTGVDTTYAEYLE 60
DB      1 MENMENDENIVGPEFFPIEGSAGALQRLKYMRYAKLGAIAFTNALTGVDTTYAEYLE 60
QY      61 KSCCLGEALKNYGLVDGRIALCSENCBEFFIPVLGLFVIGVQVAPTNEIYTLRELHSL 120
DB      61 KSCCLGEALKNYGLVDGRIALCSENCBEFFIPVLGLFVIGVQVAPTNEIYTLRELHSL 120
QY      121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQMDNFINKNTPOQFGK 180
DB      121 GISKPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQMDNFINKNTPOQFGK 180
QY      181 SSFKTVEVNRKQVALIMNSSGSTGLPKGVQLTHNAVTRFSHARDPYGNQVSPGTAIL 240
DB      181 SSFKTVEVNRKQVALIMNSSGSTGLPKGVQLTHNAVTRFSHARDPYGNQVSPGTAIL 240
QY      241 TVVPHHGGFMTTLGYLTCGFRIVMLTKFDBETFLKLDQYKCSSVILVPTLFAILNRS 300
DB      241 TVVPHHGGFMTTLGYLTCGFRIVMLTKFDBETFLKLDQYKCSSVILVPTLFAILNRS 300

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QY      301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDK 360
DB      301 ELLDKYDLSNLVEIASGAPLSKEIGAVARRFNLPGVROGYGLTETTSALITPEGDDK 360
QY      361 PGASGKVVPFLFAKVIDLDTKTLGPNRRGEVCKGPMKMGVYVDNPEATREIIDEGWL 420
DB      361 PGASGKVVPFLFAKVIDLDTKTLGPNRRGEVCKGPMKMGVYVDNPEATREIIDEGWL 420
QY      421 HTGDIYDEEKHFFIVDRLSKSLIKYKGYOVPPAELESVLLQHPNIPDAGVAGVDPPIAG 480
DB      421 HTGDIYDEEKHFFIVDRLSKSLIKYKGYOVPPAELESVLLQHPNIPDAGVAGVDPPIAG 480
QY      481 ELPAGVVVLEKGMTKEVMDYVASVSNKRLRGGRVFDVPEKGLTKIDGKAIREI 540
DB      481 ELPAGVVVLEKGMTKEVMDYVASVSNKRLRGGRVFDVPEKGLTKIDGKAIREI 540
QY      541 LKPFVAKM 548
DB      541 LKPFVAKM 548

RESULT 2
US-09-380-061B-16
; Sequence 16, Application US/093800061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRRELL, DAVID JAMES
; WHITE, PETER JOHN
; LOWE, CHRISTOPHER ROBIN
; MURRAY, JAMES AUGUSTUS HENRY
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHVE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.25 (BPO)
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/380,061B
; FILING DATE: 25-Aug-1999
; CLASSIFICATION: <Unknown>
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-Apr-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-Apr-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 16:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 16:
US-09-380-061B-16

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Query Match          100.0%; Score 2823; DB 3; Length 548;
Best Local Similarity 100.0%; Pred. No. 3.9e-289;
Matches 548; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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QY 1 MENMENDENIVGPEFFPIEBSAGALRKYMRYAKLGAFTNALTGVDYTYAEYLE 60
Db 1 MENMENDENIVGPEFFPIEBSAGALRKYMRYAKLGAFTNALTGVDYTYAEYLE 60
QY 61 KSCCGEALKNYGLVVDGRIALCSNCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCGEALKNYGLVVDGRIALCSNCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTGLYLTGCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTGLYLTGCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
QY 361 PCASGKVPLFKAKVIDLDTKTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWL 420
Db 361 PCASGKVPLFKAKVIDLDTKTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWL 420
QY 421 HTGDI GYDDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDI GYDDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

```

RESULT 3

```

US-08-460-934-2
; Sequence 2, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: FURUKAWA, HIROKI
; APPLICANT: FURUKAWA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSER: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA USA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435

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; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola lateralis
; US-08-460-934-2
; Query Match 99.8%; Score 2818; DB 2; Length 548;
; Best Local Similarity 99.8%; Pred. No. 1.3e-288;
; Matches 547; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
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Db 1 MENMENDENIVGPEFFPIEBSAGALRKYMRYAKLGAFTNALTGVDYTYAEYLE 60
QY 61 KSCCGEALKNYGLVVDGRIALCSNCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCGEALKNYGLVVDGRIALCSNCEFFPIVLAGLFIGVGVAPTNEIYTLRELHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
Db 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQGMDFIKKNTPQGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTGLYLTGCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTGLYLTGCGFRIVMLTKFDETEFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAARRFNLPGVRQGYGLTETTSIIITPEGDDK 360
QY 361 PCASGKVPLFKAKVIDLDTKTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWL 420
Db 361 PCASGKVPLFKAKVIDLDTKTLGNRRGECVCKGPMKMGYVDNPEATREIIDEEGWL 420
QY 421 HTGDI GYDDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDI GYDDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAKRLRGVRVDEVPKGLTKIDGKAIREI 540
QY 541 LKKPVAKM 548
Db 541 LKKPVAKM 548

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RESULT 4


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; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-487-183A-14

Query Match      99.7%; Score 2815; DB 4; Length 548;
Best Local Similarity 99.8%; Pred. No. 2.7e-288;
Matches 547; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAFTNEIYTLRELHVS 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAFTNEIYTLRELHVS 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTLGTLTCGFRIVMLTKFDEETFLKLDQYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGFMTTLGTLTCGFRIVMLTKFDEETFLKLDQYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNPLPGVROGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNPLPGVROGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
DB 361 PGASGKVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLEKGSMTKEKVMYDVASQVSNAKRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLEKGSMTKEKVMYDVASQVSNAKRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

RESULT 6
US-09-396-154-28
; Sequence 28, Application US/09396:154
; Patent No. 6602677
; GENERAL INFORMATION:
; APPLICANT: Wood, Keith V.
; APPLICANT: Hall, Mary P.
; TITLE OF INVENTION: Thermostable luciferases and methods of
; FILE OF INVENTION: production
; FILE REFERENCE: 341.012US1
; CURRENT FILING DATE: 1999-09-15
; EARLIER FILING DATE: 1998-09-18
; EARLIER FILING DATE: 1998-09-18
; EARLIER FILING DATE: 1997-09-19
; NUMBER OF SEQ ID NOS: 93
; SOFTWARE: PstSEQ for Windows Version 3.0
; SEQ ID NO 28
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
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US-09-396-154-28

Query Match      99.7%; Score 2814; DB 4; Length 548;
Best Local Similarity 99.6%; Pred. No. 3.5e-288;
Matches 546; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
DB 1 MENMENDENIVGPEPPYPIEBSAGAKLRKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAFTNEIYTLRELHVS 120
DB 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAFTNEIYTLRELHVS 120
QY 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
DB 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGFMTTLGTLTCGFRIVMLTKFDEETFLKLDQYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGFMTTLGTLTCGFRIVMLTKFDEETFLKLDQYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNPLPGVROGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRNPLPGVROGYGLTETTSAILITPEGDDK 360
QY 361 PGASGKVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
DB 361 PGASGKVVPLFKAVIDLDTKKTLPNRRGEVCVKPMLMKGYVDNPEATREIIDEGWL 420
QY 421 HTGDIGYDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HTGDIGYDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVVLEKGSMTKEKVMYDVASQVSNAKRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLEKGSMTKEKVMYDVASQVSNAKRLRGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAKM 548
DB 541 LKKPVAKM 548

RESULT 7
US-08-460-934-9
; Sequence 9, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, MAMORU
; APPLICANT: KOYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; ADDRESSEE: P.C.
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
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; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/460,934
 ; FILING DATE: 05-JUN-1995
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 9:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 636 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-460-934-9

Query Match 99.6%; Score 2813; DB 2; Length 636;
 Best Local Similarity 99.8%; Pred. No. 5.8e-288;
 Matches 546; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

 QY 1 MENMENDENIVGPEPFYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE 60
 Db 1 MENMENDENIVGPEPFYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE 60
 QY 61 KSCCLGALKNYGLVVDGRIGALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
 Db 61 KSCCLGALKNYGLVVDGRIGALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
 QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKKNTPQGFKG 180
 Db 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKKNTPQGFKG 180
 QY 181 SSPKTEVNRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL 240
 Db 181 SSPKTEVNRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAIL 240
 QY 241 TVVPFHGFGMFTTGLVTCGPRIVMLTKFDEBTFKLTQDYKCSSVILVPTLFAILNES 300
 Db 241 TVVPFHGFGMFTTGLVTCGPRIVMLTKFDEBTFKLTQDYKCSSVILVPTLFAILNES 300
 QY 301 ELLDKYDLSNLVIAAGGAPLSKEIGAVARRNLPVGRQGYGLTETTSALITPEGDDX 360
 Db 301 ELLDKYDLSNLVIAAGGAPLSKEIGAVARRNLPVGRQGYGLTETTSALITPEGDDX 360
 QY 361 PGASGVVPLFKAKVLDLTKTLGNRRGEVGVKGMPLKMGVVDNPEATRIIDEEGWL 420
 Db 361 PGASGVVPLFKAKVLDLTKTLGNRRGEVGVKGMPLKMGVVDNPEATRIIDEEGWL 420
 QY 421 HTGDIGYDEEHFFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
 Db 421 HTGDIGYDEEHFFIVDLKSLIKYKGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
 QY 481 ELPGAVVLEKSKMTEKEMVDVVASQVSNKELRGVRFVDEVPKGLTKIDGKRAIREI 540
 Db 481 ELPGAVVLEKSKMTEKEMVDVVASQVSNKELRGVRFVDEVPKGLTKIDGKRAIREI 540
 QY 541 LKRPVAK 547
 Db 541 LKRPVAK 547

RESULT 8
 US-08-782-118-9
 ; Sequence 9, Application US/08782118
 ; Patent No. 5843746
 ; GENERAL INFORMATION:
 ; APPLICANT: TATSUMI, HIROKI
 ; APPLICANT: FUKUDA, SATOSHI
 ; APPLICANT: KIKUCHI, MAMORU
 ; APPLICANT: KOYAMA, YASUJI
 ; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
 ; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
 ; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
 ; TITLE OF INVENTION: ANALYSIS METHOD
 ; NUMBER OF SEQUENCES: 14
 ; CORRESPONDENCE ADDRESS:
 ; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
 ; ADDRESSEE: P.C.
 ; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
 ; CITY: ARLINGTON
 ; STATE: VA
 ; COUNTRY: USA
 ; ZIP: 22202
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: PatentIn Release #1.0, Version #1.30
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/08/782,118
 ; FILING DATE: 13-JAN-1997
 ; CLASSIFICATION: 435
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: US 08/460,934
 ; FILING DATE: 05-JUN-1995
 ; APPLICATION NUMBER: JP 193798/1994
 ; FILING DATE: 27-JUL-1994
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 54625/1995
 ; FILING DATE: 14-MAR-1995
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: JP 98857/1995
 ; FILING DATE: 24-APR-1995
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: OBLON, NORMAN F.
 ; REGISTRATION NUMBER: 24,618
 ; REFERENCE/DOCKET NUMBER: 7126-001-0
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: 703-413-3000
 ; TELEFAX: 703-413-2220
 ; INFORMATION FOR SEQ ID NO: 9:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 636 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; US-08-782-118-9

Query Match 99.6%; Score 2813; DB 2; Length 636;
 Best Local Similarity 99.8%; Pred. No. 5.8e-288;
 Matches 546; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

 QY 1 MENMENDENIVGPEPFYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE 60
 Db 1 MENMENDENIVGPEPFYPIEESGAGLRYKMDRYAKLGAIAFTNALTGVDTYAEYLE 60
 QY 61 KSCCLGALKNYGLVVDGRIGALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
 Db 61 KSCCLGALKNYGLVVDGRIGALSCENCEEFFIPVLAGLFIGVGVAPTNIEYTLRELVHSL 120
 QY 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKKNTPQGFKG 180
 Db 121 GISKPTIVFSSKGLDKVITVQKTVAITKIVILDSKVDYRGYSQMDNFIKKNTPQGFKG 180

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QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGGFMFTTILGYLTCGPRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGGFMFTTILGYLTCGPRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSAILITPEGGDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSAILITPEGGDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
QY 421 HTGDIQYDDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
DB 421 HTGDIQYDDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAK 547
DB 541 LKKPVAK 547

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RESULT 9
US-09-111-752-14
; Sequence 14, Application US/09111752
; Patent No. 6074859
; GENERAL INFORMATION:
; APPLICANT: HIROKAWA, KOZO
; APPLICANT: KAJIYAMA, NAKOI
; APPLICANT: MURAKAMI, SEIJI
; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
; TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSER: P.C.
; ADDRESSER: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent In Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/111,752
; FILING DATE: 08-JUL-1998
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-0009-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 14:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
US-09-111-752-14

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Query Match 99.5%; Score 2808; DB 3; Length 548;
Best Local Similarity 99.5%; Pred. No. 1.5e-287;
Matches 545; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEFYPIEBGSAGQLRKYMDRYAKLGAIATFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVYGPPEFYPIEBGSAGQLRKYMDRYAKLGAIATFTNALTGVDTYAEYLE 60
QY 61 KSCCLGALKNYGLVVDGRIALCSECEEFPIVLGLFVGVPVAPNEIYTLREIVHSL 120
DB 61 KSCCLGALKNYGLVVDGRIALCSECEEFPIVLGLFVGVPVAPNEIYTLREIVHSL 120
QY 121 GISKPTTVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTTVFSSKKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVPFFHGGFMFTTILGYLTCGPRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVPFFHGGFMFTTILGYLTCGPRIVMLTKFDEETFLKTLQDYKCSSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSAILITPEGGDK 360
DB 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPGVRQGYGLTETTSAILITPEGGDK 360
QY 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
DB 361 PGASGKVVPLFKAKVIDLDTKTLGNRRGGEVYCVKGPMLMGKYVDNPEATREIIDEEGWL 420
QY 421 HTGDIQYDDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
DB 421 HTGDIQYDDEEKHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPPIAG 480
QY 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLGGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPGAVVVLKKGKSMTEKEVMDYVASQVSNAXRLGGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKKPVAK 548
DB 541 LKKPVAK 548

RESULT 10
US-09-602-628-10
; Sequence 10, Application US/09602628
; Patent No. 6495355
; GENERAL INFORMATION:
; APPLICANT: Eames, Brian
; APPLICANT: Contag, Christopher
; TITLE OF INVENTION: Red-Shifted Luciferase
; FILE REFERENCE: SUN-127
; CURRENT APPLICATION NUMBER: US/09/602,628
; PRIOR FILING DATE: 2000-06-21
; PRIOR APPLICATION NUMBER: 60/140,598
; PRIOR FILING DATE: 1999-06-22
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FASTSEQ for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 548
; TYPE: PRT
; ORGANISM: Luciola lateralis
US-09-602-628-10

Query Match 99.3%; Score 2802; DB 4; Length 548;
Best Local Similarity 99.1%; Pred. No. 6.5e-287;
Matches 543; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEFYPIEBGSAGQLRKYMDRYAKLGAIATFTNALTGVDTYAEYLE 60

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Db 1 MEMNDENIVGPKPFPIEBSGAGQURKYMDRYAKLGAIAFTNALTGVDTYVAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLGAGLFIQVGVAPTNEIYTLRELHVS 120
Db 61 KSCCLGEALKNYGLVVDGRIALCSECEFFPIVLGAGLFIQVGVAPTNEIYTLRELHVS 120
QY 121 GISKPTIVSSKGLDKVITVQKTVTAIKTIIVILSKVDYRGYQSDNFIKNTPGGFK 180
Db 121 GISKPTIVSSKGLDKVITVQKTVTAIKTIIVILSKVDYRGYQSDNFIKNTPGGFK 180
QY 181 SSFKTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPCTAIL 240
Db 181 SSFKTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPCTAIL 240
QY 241 TVPFHHGFMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFHHGFMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZQGYGLTETTSAILIITPEGDDK 360
Db 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZQGYGLTETTSAILIITPEGDDK 360
QY 361 PGAGSKVPLFLKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWL 420
Db 361 PGAGSKVPLFLKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWL 420
QY 421 HTGDIGYDEEKKHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
Db 421 HTGDIGYDEEKKHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 ELPGAVVLEKSGMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSGMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
QY 541 LKXPKVAKM 548
Db 541 LKXPKVAKM 548

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RESULT 11

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US-08-460-934-6
; Sequence 6, Application US/08460934
; Patent No. 5814465
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI
; APPLICANT: KIKUCHI, NAMORU
; APPLICANT: KAYAMA, YASUJI
; TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
; TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
; TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
; TITLE OF INVENTION: ANALYSIS METHOD
; NUMBER OF SEQUENCES: 14
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, WAITER & NEUSTADT,
; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, FOURTH FLOOR
; CITY: ARLINGTON
; STATE: VA
; COUNTRY: USA
; ZIP: 22202
; COMPUTER READABLE FORM: disk
; MEDIUM TYPE: Floppy
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/460,934
; FILING DATE: 05-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 193798/1994
; FILING DATE: 27-JUL-1994

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; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 54625/1995
; FILING DATE: 14-MAR-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: JP 98857/1995
; FILING DATE: 24-APR-1995
; ATTORNEY/AGENT INFORMATION:
; NAME: OBLON, NORMAN F.
; REGISTRATION NUMBER: 24,618
; REFERENCE/DOCKET NUMBER: 7126-001-0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 703-413-3000
; TELEFAX: 703-413-2220
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 568 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-460-934-6

Query Match 99.2%; Score 2800; DB 2; Length 568;
Best Local Similarity 99.5%; Pred. No. 1.1e-286;
Matches 543; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY 3 NMENDENIVGPKPFPIEBSGAGQURKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 62
Db 23 SLENDENIVGPKPFPIEBSGAGQURKYMDRYAKLGAIAFTNALTGVDTYVAEYLEKS 82
QY 63 CCLGEALKNYGLVVDGRIALCSECEFFPIVLGAGLFIQVGVAPTNEIYTLRELHVS 122
Db 83 CCLGEALKNYGLVVDGRIALCSECEFFPIVLGAGLFIQVGVAPTNEIYTLRELHVS 142
QY 123 SKPTIVSSKGLDKVITVQKTVTAIKTIIVILSKVDYRGYQSDNFIKNTPGGFKSS 182
Db 143 SKPTIVSSKGLDKVITVQKTVTAIKTIIVILSKVDYRGYQSDNFIKNTPGGFKSS 202
QY 183 FKTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAILTV 242
Db 203 FKTVEVRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNVSPGTAILTV 262
QY 243 VPFHHGFMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 302
Db 263 VPFHHGFMFTTGLYTCGPRIVMLTKFDEETFLKTLQDYKCSVILVPTLFAILNRS 322
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZQGYGLTETTSAILIITPEGDDKPG 362
Db 323 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVZQGYGLTETTSAILIITPEGDDKPG 382
QY 363 ASGKVPFLKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWLHT 422
Db 383 ASGKVPFLKAKVIDLDTKKTLPNRRGEVCKGPMKMGYVNDPEATREIIDEAGWLHT 442
QY 423 GDIGYDEEKKHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
Db 443 GDIGYDEEKKHFFIVDRILKSLIKYGVQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 502
QY 483 PGAVVLEKSGMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
Db 503 PGAVVLEKSGMTEKXEMDVASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 562
QY 543 KPVAKM 548
Db 563 KPVAKM 568

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RESULT 12

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US-08-782-118-6
; Sequence 6, Application US/08782118
; Patent No. 5843746
; GENERAL INFORMATION:
; APPLICANT: TATSUMI, HIROKI
; APPLICANT: FUKUDA, SATOSHI

```

APPLICANT: KIKUCHI, MAMORU
APPLICANT: KIKUCHI, MAMORU
TITLE OF INVENTION: BIOTINYLATED FIREFLY LUCIFERASE, A GENE
TITLE OF INVENTION: FOR BIOTINYLATED FIREFLY LUCIFERASE, A RECOMBINANT DNA, A
TITLE OF INVENTION: PROCESS FOR PRODUCING BIOTINATED AND A BIOLUMINESCENT
TITLE OF INVENTION: ANALYSIS METHOD
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US 08/460,934
FILING DATE: 05-JUN-1995
FILING DATE: 27-JUL-1994
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: JP 193798/1994
FILING DATE: 13-JAN-1997
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/460,934
FILING DATE: 05-JUN-1995
FILING DATE: 27-JUL-1994
PRIORITY APPLICATION DATA:
APPLICATION NUMBER: JP 54625/1995
FILING DATE: 14-MAR-1995
APPLICATION DATA: JP 98857/1995
FILING DATE: 24-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-001-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 568 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-782-118-6

Query Match 99.2%; Score 2800; DB 2; Length 568;
Best Local Similarity 99.5%; Pred. No. 1.1e-286;
Matches 543; Conservative 2; Mismatches 1; Indels 0; Gaps 0;

QY	3	NMNDENIVGPEPPPIEAGAGAPLSEI	62
DB	23	SLNDENIVGPEPPPIEAGAGAPLSEI	82
QY	63	CLGELKXGVLVDGRIALSCNCEEPF	122
DB	83	CLGELKXGVLVDGRIALSCNCEEPF	142
QY	123	SKPTIVFSSKGLDKVITVQKTTA	182
DB	143	SKPTIVFSSKGLDKVITVQKTTA	202
QY	183	EKTVEVNRKEQVALINNSGSGT	242
DB	203	EKTVEVNRKEQVALINNSGSGT	262
QY	243	VPFHFGFGFTTGLYLTCTGFR	302
DB	263	VPFHFGFGFTTGLYLTCTGFR	322

QY 303 LDKYDLSNLVIAISGAPLSKEIGEAVARRNLPQVRGVLGTETTSIIITPBGDDKPG 362
DB 323 LDKYDLSNLVIAISGAPLSKEIGEAVARRNLPQVRGVLGTETTSIIITPBGDDKPG 382
QY 363 ASGKVVPFLFKAKVIDLDTKKTGLGNRRGEVVCVKGPMKMGVVDNPEATREIIDEGWMLHT 422
DB 383 ASGKVVPFLFKAKVIDLDTKKTGLGNRRGEVVCVKGPMKMGVVDNPEATREIIDEGWMLHT 442
QY 423 GDIGYDEEKEHFFIVDRKLSLIKVKYQVPPAELESVLLQHPNIFDAGVAGVPPPIAGEL 482
DB 443 GDIGYDEEKEHFFIVDRKLSLIKVKYQVPPAELESVLLQHPNIFDAGVAGVPPPIAGEL 502
QY 483 PGAVVLEKSGKSMTEKEMVYVAVSQVSNKRLRGVRFVDEVPKGLTKIDGKAIRBILK 542
DB 503 PGAVVLEKSGKSMTEKEMVYVAVSQVSNKRLRGVRFVDEVPKGLTKIDGKAIRBILK 562
QY 543 KPVAKM 548
DB 563 KPVAKM 568

RESULT 13
US-09-111-752-10
Sequence 10, Application US/09111752
Patent No. 6074859
GENERAL INFORMATION:
APPLICANT: HIROKAWA, KOZO
APPLICANT: KAJIYAMA, NAOKI
APPLICANT: MURAKAMI, SEIJI
TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE BIOLUMINESCENT PROTEIN
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
ADDRESS: P.C.
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/111,752
FILING DATE: 08-JUL-1998
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-0009-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 552 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
ORIGINAL SOURCE:
ORGANISM: Luciola lateralis, Photinus pyralis
US-09-111-752-10

Query Match 95.7%; Score 2702; DB 3; Length 552;
Best Local Similarity 96.3%; Pred. No. 2.4e-276;
Matches 523; Conservative 9; Mismatches 11; Indels 0; Gaps 0;

QY 1 MENNDENIVGPEPPPIEAGAGAPLSEI 60

1	MEMNENDENIVVGPFFPI	EGSAGAQLRKYMDRYAKLGAIAFTNALTGVDYTYAAYLS	60
61	KSCCLGEALKNYGLVVDGRIALCSNCEBEFFIPVLAGLFIGVGVPATNEIYTLRELVHSL	120	
61	KSCCLGEALKNYGLVVDGRIALCSNCEBEFFIPVLAGLFIGVGVPATNEIYTLRELVHSL	120	
121	GISKPTIVFSSKGLDKVITVQKVTIAITKTIIVLDSKDYVRGYSQMDNFIKQWPOGFKG	180	
121	GISKPTIVFSSKGLDKVITVQKVTIAITKTIIVLDSKDYVRGYSQMDNFIKQWPOGFKG	180	
181	SFKFTVEVNRKEQVALIWNSSGSLPGXVOLTHENAVTRFSHARDPITYGNQVSPGTAIL	240	
181	SFKFTVEVNRKEQVALIWNSSGSLPGXVOLTHENAVTRFSHARDPITYGNQVSPGTAIL	240	
241	TVVPFHGFGMFTTLGYITCGFRIVMLTKFDEBFTLTKLDQYKCSSVILVPTLFAILNRS	300	
241	TVVPFHGFGMFTTLGYITCGFRIVMLTKFDEBFTLTKLDQYKCSSVILVPTLFAILNRS	300	
301	ELLDKYDLNLNLVEIASGAPLSKETGEAVARFNLPGVROXYGLTETSAILITPBGDDK	360	
301	ELLDKYDLNLNLVEIASGAPLSKETGEAVARFNLPGVROXYGLTETSAILITPBGDDK	360	
361	PCASGKVVPLFPAKVIDLDTKTKLGNRRGVCVKGPMLMKGVDVDPNPEATREIIDESEGL	420	
361	PCASGKVVPLFPAKVIDLDTKTKLGNRRGVCVKGPMLMKGVDVDPNPEATREIIDESEGL	420	
421	HTGDIICYDEEKHFFIVDLKSLIKYKGYVPPAELSVLLOHPNIFDAGVAGVPPPIAG	480	
421	HTGDIICYDEEKHFFIVDLKSLIKYKGYVPPAELSVLLOHPNIFDAGVAGVPPPIAG	480	
481	ELPGAUVVLEKSKWTEKEVMDYVASOVSNAKRLRGVRFVDEVPKGLTGKIDGKAIRI	540	
481	ELPGAUVVLEKSKWTEKEIIVDYVASQVTTAKLRGGVVFVDEVPKGLTGKLDARKIRI	540	
541	LXK	543	
541	LXK	543	

RESULT 14
US-07-675-211-2
; Sequence 2, Application US/07675211
; Patent No. 5219737
; GENERAL INFORMATION:
; APPLICANT: KAJIYAMA, NAKKI
; APPLICANT: NAKANO, EICHI
; TITLE OF INVENTION: MUTANT LUCIFERASE OF A FIREFLY, MUTANT
; TITLE OF INVENTION: LUCIFERASE GENES, NOVEL RECOMBINANT DNAs CONTAINING THE
; TITLE OF INVENTION: GENES AND A METHOD OF PRODUCING MUTANT LUCIFERASE
; NUMBER OF SEQUENCES: 4
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: PENNIE & EDMONDS
; STREET: 1155 AVENUE OF THE AMERICAS
; CITY: NEW YORK
; STATE: N.Y.
; COUNTRY: U.S.A
; ZIP: 10036
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/07/675,211
; FILING DATE: 19910326
; CLASSIFICATION: 435
; ATTORNEY/AGENT INFORMATION:
; NAME: MISROCK, S. LESLIE
; REGISTRATION NUMBER: 18,972
; REFERENCE/DOCKET NUMBER: 7005-026-999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 212-790-9090

```

; TELEFAX: 212-869-9741
; TELEX: 66141 PENNIE
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: AMINO ACID
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Luciola cruciata
;
US-07-675-211-2

Query Match          95.3%; Score 2689; DB 1; Length 548;
Best Local Similarity 93.6%; Pred.No. 5.7e-275;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0

QY      1 MENMENDNIYVGPEPFPYPIEESAGAQLRKYMDRYAKLGAIAFTNALTGVDVITYAEYLE 60
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      1 MENMENDNIYVGPKFPYPIEESAGTQLAKYMERYAKLGAIAFTNAVITGVDSYAEYLE 60

QY      61 KSCCLGEALKNYGLVVDGRIALCSENECEEFPIVPLAGLFIGVGVAPTNEIYYTLRELVHSL 120
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      61 KSCCLGKALQNYGLVVDGRIALCSENECEEFPIVIAGLFIGVGVAPTNEIYYTLRELVHSL 120

QY      121 GTSKPTIYVFSKKGGLDKVITVQKTVTAI KTIIVILDSKVDRYQSQMDNFIKNNTPGQFKG 180
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      121 GTSKPTIYVFSKKGGLDKVITVQKTVTTI KTIIVILDSKVDRYGVQCLDTFIKNNTPPGFQA 180

QY      181 SSFKTVEVNRKEQVALIMNSSGSLGPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      181 SSFKTVEVDRKEQVALIMNSSGSLGPKGVQLTHENTVTRFSHARDPIYGNQVSPGTAVL 240

QY      241 TVVPHHGFQMFTILGYITCGFRIVMLTKEDDETFKTLQDYKCSVILVPTLFAILNRS 300
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      241 TVVPHHGFQMFTILGYLICGFRVWMLTKEDDETFKTLQDYKCTSVILVPTLFAILNKS 300

QY      301 ELLDKVDYLSNLVEASGAPLSKEIGEAVARRFNLPQVRQGVLTETTSAILITPEGDDK 360
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      301 EELNKYDLSNLVEASGAPLSKEVGEAVARRFNLPQVRQGVLTETTSAILITPEGDDK 360

QY      361 PGASGVVPLFKAVIDLDTKKTILGNRRGEVCVKGPMLMKGVNDPEATREIIDEGWL 420
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      361 PGASGVVPLFKAVIDLDTKKSILGNRRGEVCVKGPMLMKGVNPEATKELIDEGWL 420

QY      421 HTGDIYVDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDTAG 480
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      421 HTGDIYGYDEEKHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPISIFDAGVAGVDPDPVAG 480

QY      481 ELPGAVVLEKGSWTEKVMNDYVASQVNAKRLRGGVRFVDRVPKGLTGKIDGKAIREI 540
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      481 ELPGAVVLESGKWTEKVMNDYVASQVNAKRLRGGVRFVDEVPKGLTGKIDGRAIREI 540

QY      541 LKKPVAKM 548
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||
DB      541 LKKPVAKM 548
      ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| ||| |||

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RESULT 15
US-07-903-047-2
; Sequence 2, Application US/07903047
; Patent No. 529285
; GENERAL INFORMATION:
; APPLICANT: Kajiyama, Naoki
; APPLICANT: Nakano, Eiichi
; TITLE OF INVENTION: Thermostabl
; TITLE OF INVENTION: Thermostabl
; TITLE OF INVENTION: DNA, And Pr
; TITLE OF INVENTION: Luciferase
; NUMBER OF SEQUENCES: 11
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Fennie & Edmonds
; STREET: 1155 Avenue of the Am
; CITY: New York

```

```

STATE: New York
COUNTRY: U.S.A.
ZIP: 10036-2711
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/903,047
FILING DATE: 19920623
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: MISROCK, S. LESLIE
REGISTRATION NUMBER: 18,872
REFERENCE/DOCKET NUMBER: 7005-048
TELECOMMUNICATION INFORMATION:
TELEPHONE: 212 790-9090
TELEFAX: 212 869-8864/9741
TELEX: 66141 PENNIE
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 548 amino acids
TYPE: AMINO ACID
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: peptide
US-07-903-047-2

Query Match 95.3%; Score 2689; DB 1; Length 548;
Best Local Similarity 93.6%; Pred. No. 5.7e-275;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPFYPIEGSGAQLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVGPKFPFYPIEGSGAGTQLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300

US-08-076-042-2
Query Match 95.3%; Score 2689; DB 1; Length 548;
Best Local Similarity 93.6%; Pred. No. 5.7e-275;
Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPFYPIEGSGAQLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
DB 1 MENMENDENIVGPKFPFYPIEGSGAGTQLRKYMDRYAKLGAIAFTNALTGVDTYAEYLE 60
QY 61 KSCCLGEALKNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
DB 121 GISKPTIVFSSKKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKKNTPOGFKG 180
QY 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTLGYLTCGFRIVMLTKFDEBETFLKTLQDYKCSSVILVPTLFAILNRS 300

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QY 301 ELLDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDK 360
 QY 361 PGASGVVPLFKAKVIDLTKTLGNRRGEVCKGPMMLKGYVNDPEATRIIIEGWL 420
 DB 361 PGASGVVPLFKAKVIDLTKTLGNRRGEVCKGPMMLKGYVNDPEATRIIIEGWL 420
 QY 421 HTGIDIGYDEEKHFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 DB 421 HTGIDIGYDEEKHFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 QY 481 ELPGAVVLEKSGMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAVVLEKSGMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKKEPVAKM 548
 DB 541 LKKEPVAKM 548

RESULT 17
 US-09-380-061B-14
 ; Sequence 14, Application US/093800061B
 ; Patent No. 6265177
 ; GENERAL INFORMATION:
 ; APPLICANT: SQUIRRELL, DAVID JAMES
 ; WHITE, PETER JOHN
 ; MURRAY, JAMES AUGUSTUS HENRY
 ; LOWE, CHRISTOPHER ROBIN
 ; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 ; NUMBER OF SEQUENCES: 21
 ; CORRESPONDENCE ADDRESSES:
 ; ADDRESSEE: NIXON & VANDERHYE P.C.
 ; STREET: 1100 NORTH GLEE ROAD
 ; CITY: ARLINGTON
 ; STATE: VIRGINIA
 ; COUNTRY: U.S.A.
 ; ZIP: 22201-4714
 ; COMPUTER READABLE FORM:
 ; MEDIUM TYPE: Floppy disk
 ; COMPUTER: IBM PC compatible
 ; OPERATING SYSTEM: PC-DOS/MS-DOS
 ; SOFTWARE: Patent In Release #1.0, Version #1.25 (BPO)
 ; CURRENT APPLICATION DATA:
 ; APPLICATION NUMBER: US/09/380,061B
 ; FILING DATE: 25-Aug-1999
 ; CLASSIFICATION: <Unknown>
 ; PRIOR APPLICATION DATA:
 ; APPLICATION NUMBER: PCT/GB98/01026
 ; FILING DATE: 7-APR-1998
 ; APPLICATION NUMBER: GB 9707468.8
 ; FILING DATE: 11-APR-1997
 ; ATTORNEY/AGENT INFORMATION:
 ; NAME: SADOFF, B. J.
 ; REGISTRATION NUMBER: 36,663
 ; REFERENCE/DOCKET NUMBER: 124-725
 ; TELECOMMUNICATION INFORMATION:
 ; TELEPHONE: (703) 816-4000
 ; TELEFAX: (703) 816-4100
 ; INFORMATION FOR SEQ ID NO: 14:
 ; SEQUENCE CHARACTERISTICS:
 ; LENGTH: 548 amino acids
 ; TYPE: amino acid
 ; TOPOLOGY: linear
 ; MOLECULE TYPE: protein
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 14:

Query Match 95.3%; Score 2689; DB 3; Length 548;
 Best Local Similarity 93.6%; Pred. No. 5.7e-275;
 Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEPIEBSAGQALRYKMDRVAKLGAIAFTNALTGVDVITYAEYLE 60
 DB 1 MENMENDENIVYGPPEPIEBSAGQALRYKMDRVAKLGAIAFTNALTGVDVITYAEYLE 60
 QY 61 KSCCLGKALQNYGLVNDGRITLALCSECEBEFFIPLVLAFLFGVGVAPNTEIYTLRELVHSL 120
 DB 61 KSCCLGKALQNYGLVNDGRITLALCSECEBEFFIPLVLAFLFGVGVAPNTEIYTLRELVHSL 120
 QY 121 GISKPTTVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQSMDNFTKNTTPQGFKG 180
 DB 121 GISKPTTVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGYQCLDTPIKRNTPPGFOA 180
 QY 181 SSFTVTVNKRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
 DB 181 SSFTVTVNKRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAVL 240
 QY 241 TVPFFHGFMTTLGYLTCGFRIVMLTKDEETFLKTLQDYKCSSVILVPTLFAINRS 300
 DB 241 TVPFFHGFMTTLGYLTCGFRIVMLTKDEETFLKTLQDYKCTSVILVPTLFAINKS 300
 QY 301 ELLDKYDLSNLVEIASGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDK 360
 DB 301 ELLNKYDLSNLVEIASGAPLSKEIGEAVARRFNLPGRVQGYGLTETTSAILIITPEGDDK 360
 QY 361 PGASGVVPLFKAKVIDLTKTLGNRRGEVCKGPMMLKGYVNDPEATRIIIEGWL 420
 DB 361 PGASGVVPLFKAKVIDLTKTLGNRRGEVCKGPMMLKGYVNDPEATRIIIEGWL 420
 QY 421 HTGIDIGYDEEKHFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 DB 421 HTGIDIGYDEEKHFFIVDRLSLIIKYGQVPPAELESVLLQHPNIFDAGVGPDPPIAG 480
 QY 481 ELPGAVVLEKSGMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 DB 481 ELPGAVVLEKSGMTEKEVMDYVASQVSNAKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
 QY 541 LKKEPVAKM 548
 DB 541 LKKEPVAKM 548

RESULT 18
 US-09-396-154-27
 ; Sequence 27, Application US/09396154
 ; Patent No. 6602677
 ; GENERAL INFORMATION:
 ; APPLICANT: Wood, Keith V.
 ; APPLICANT: Hall, Mary P.
 ; TITLE OF INVENTION: Thermostable luciferases and methods of
 ; FILE REFERENCE: 341.012US1
 ; CURRENT APPLICATION NUMBER: US/09/396,154
 ; CURRENT FILING DATE: 1999-09-15
 ; EARLIER APPLICATION NUMBER: US 09/156,946
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: PCT/US98/19494
 ; EARLIER FILING DATE: 1998-09-18
 ; EARLIER APPLICATION NUMBER: US 60/059,379
 ; EARLIER FILING DATE: 1997-09-19
 ; NUMBER OF SEQ ID NOS: 93
 ; SOFTWARE: fastseq for Windows Version 3.0
 ; SEQ ID NO: 27
 ; LENGTH: 548
 ; TYPE: PRT
 ; ORGANISM: Luciola cruciata
 ; US-09-396-154-27

Query Match 95.3%; Score 2689; DB 4; Length 548;
 Best Local Similarity 93.6%; Pred. No. 5.7e-275;
 Matches 513; Conservative 25; Mismatches 10; Indels 0; Gaps 0;

QY 1 MENMENDENIVYGPPEPIEBSAGQALRYKMDRVAKLGAIAFTNALTGVDVITYAEYLE 60

Db 1 MENMENDENIVGPKPFPIEESGAGTQLRKYMERAYAKLGAIAFTNAVTVGVDYSYAEYLE 60
Qy 61 KSCCLGEALKNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Qy 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQCLDTPFKENTPPGQA 180
Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAVL 240
Qy 241 TVPFFHGFMTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARBNLPGVROGYGLTETTSAILITPEGDDK 360
Db 301 ELLNKYDLSNLVEIASGGAPLSKEIGEAVARBNLPGVROGYGLTETTSAILITPEGDDK 360
Qy 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVNNPEATREIIDEGWL 420
Qy 421 HTGDIGYDDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKXPVAKM 548
Db 541 LKXPVAKM 548

RESULT 19

US-08-487-183A-12

; Sequence 12, Application US/08487183A

; Patent No. 6367675

; GENERAL INFORMATION:

; APPLICANT: WOOD, Keith V.

; APPLICANT: GRUBER, Monika G.

; TITLE OF INVENTION: MUTANT LUCIFERASES

; NUMBER OF SEQUENCES: 16

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Foley & Lardner

; STREET: P.O. Box 1497

; CITY: Madison

; STATE: WI

; COUNTRY: USA

; ZIP: 53701-1497

; COMPUTER READABLE FORM:

; MEDIUM TYPE: Floppy disk

; COMPUTER: IBM PC compatible

; OPERATING SYSTEM: PC-DOS/MS-DOS

; SOFTWARE: Patent In Release #1.0, Version #1.30

; CURRENT APPLICATION DATA:

; APPLICATION NUMBER: US/08/487,183A

; FILING DATE: 06-JUN-1995

; CLASSIFICATION: 435

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/467,773

; FILING DATE: 06-JUN-1995

; PRIOR APPLICATION DATA:

; APPLICATION NUMBER: US 08/177,081

; FILING DATE: 03-JAN-1994

; ATTORNEY/AGENT INFORMATION:

; NAME: Scanlon, William J.

; REGISTRATION NUMBER: 31,136
; REFERENCE/DOCKET NUMBER: 19017/166
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (608)258-5035
; TELEFAX: (608)258-4258
; INFORMATION FOR SEQ ID NO: 12:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-487-183A-12

Query March 94.98; Score 2680; DB 4; Length 548;

Best Local Similarity 93.2%; Pred. No. 5.1e-274;

Matches 511; Conservative 26; Mismatches 11; Indels 0; Gaps 0;

Qy 1 MENMENDENIVGPEPPFPIEESGAGTQLRKYMERAYAKLGAIAFTNAVTVGVDYSYAEYLE 60
Db 1 MENMENDENIVGPKPFPIEESGAGTQLRKYMERAYAKLGAIAFTNAVTVGVDYSYAEYLE 60
Qy 61 KSCCLGEALKNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Db 61 KSCCLGKALQNYGLVVDGRIALCSECEBFFIPVLAGLFIGVGVAPTNEIYTLRELHSL 120
Qy 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQSMDFIKNTPOGFKG 180
Db 121 GISKPTIVFSSKGLDKVITVQKTVAIKTIVILDSKVDYRGYQCLDTPFKENTPPGQA 180
Qy 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
Db 181 SSFKTVEVNRKEQVALIMNSSGSTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAVL 240
Qy 241 TVPFFHGFMTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Db 241 TVPFFHGFMTTGLYLCGFRVWMLTKPDEETFLKTLQDYKCSVILVPTLFAILNRS 300
Qy 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARBNLPGVROGYGLTETTSAILITPEGDDK 360
Db 301 ELLNKYDLSNLVEIASGGAPLSKEIGEAVARBNLPGVROGYGLTETTSAILITPEGDDK 360
Qy 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVDNPEATREIIDEGWL 420
Db 361 PGASGVVPLFKAKVIDLDTKTLGPNRRGEVCVKGPMLMKGYVNNPEATREIIDEGWL 420
Qy 421 HTGDIGYDDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Db 421 HTGDIGYDDEEKHFFIVDRLSLIIKYKGQVPPAELESVILQHPNIFDAGVAGVDPPIAG 480
Qy 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Db 481 ELPGAVVLEKSKMTEKEVMDYVASQVSNAXRLRGVRFVDEVPKGLTGKIDGKAIREI 540
Qy 541 LKXPVAKM 548
Db 541 LKXPVAKM 548

RESULT 20

US-09-111-752-7

; Sequence 7, Application US/09111752

; Patent No. 6074859

; GENERAL INFORMATION:

; APPLICANT: HIROKAWA, KOZO

; APPLICANT: KAJIYAMA, NAOKI

; APPLICANT: MURAKAMI, SEIJI

; TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND

; PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN

; NUMBER OF SEQUENCES: 14

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,

; ADDRESSEE: P.C.

; STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400

CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/111,752
FILING DATE: 08-JUL-1998
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-0009-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 552 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
ORIGINAL SOURCE:
ORGANISM: Luciola cruciata and Phontinus pyralis
US-09-111-752-7

Query Match 91.7%; Score 2589; DB 3; Length 552;
Best Local Similarity 91.0%; Pred. No. 2.2e-264;
Matches 494; Conservative 30; Mismatches 19; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGALRYKMDRYAKLGAIAFTNALGVDTYVAEYLE 60
DB 1 MENMENDENIVGPKFPYPIEBSAGTQLRKMYRYAKLGAIAFTNAVTGVDYSVAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLGAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLGAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAITKIVILDSKVDYRGVQSDNFIKNTTGGK 180
DB 121 GISKPTIVFSSKKGLDKVITVQKTVAITKIVILDSKVDYRGVQSDNFIKNTTGGK 180
QY 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEETFLKTDYKCSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEETFLKTDYKCSVILVPTLFAILNRS 300
QY 301 ELLDKYDLSNLVBIASGGAPLSKEIGEAVARFNLPGVRRQGYGLTETTSAILITPEGDDK 360
DB 301 ELLDKYDLSNLVBIASGGAPLSKEIGEAVARFNLPGVRRQGYGLTETTSAILITPEGDDK 360
QY 361 PGAGKGVPLFKAIVLDLTKTLGNRRGEVGVKGMKGVNDPENTRIIDEEGL 420
DB 361 PGAGKGVPLFKAIVLDLTKTLGNRRGEVGVKGMKGVNDPENTRIIDEEGL 420
QY 421 HTGDIGYDEEKHFFIVDRKLSIKYGVQVPAELESVLLQHPNIFDAGVAGVDPDAG 480
DB 421 HTGDIGYDEEKHFFIVDRKLSIKYGVQVPAELESVLLQHPNIFDAGVAGVDPDAG 480
QY 481 ELPGAIVVLEKGSMTKEVMDYVASQVNAKRLRGVRFVDEVPKGLTGKIDGKAIIRI 540
DB 481 ELPGAIVVLEKGSMTKEVMDYVASQVNAKRLRGVRFVDEVPKGLTGKIDGKAIIRI 540
QY 541 LKK 543

Db 541 LKK 543

Db 541 LKK 543

RESULT 21
US-09-111-752-5
Sequence 5, Application US/09111752
Patent No. 6074859
GENERAL INFORMATION:
APPLICANT: HIROKAWA, KOZO
APPLICANT: KAJIYAMA, NAOKI
APPLICANT: MURAKAMI, SEIJI
TITLE OF INVENTION: MUTANT-TYPE BIOLUMINESCENT PROTEIN, AND
TITLE OF INVENTION: PROCESS FOR PRODUCING MUTANT-TYPE LUMINESCENT PROTEIN
NUMBER OF SEQUENCES: 14
CORRESPONDENCE ADDRESS:
ADDRESSEE: OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT,
ADDRESS: P.C.
STREET: 1755 S. JEFFERSON DAVIS HIGHWAY, SUITE 400
CITY: ARLINGTON
STATE: VA
COUNTRY: USA
ZIP: 22202
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/111,752
FILING DATE: 08-JUL-1998
CLASSIFICATION: 435
ATTORNEY/AGENT INFORMATION:
NAME: OBLON, NORMAN F.
REGISTRATION NUMBER: 24,618
REFERENCE/DOCKET NUMBER: 7126-0009-0
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-413-3000
TELEFAX: 703-413-2220
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 552 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
ORIGINAL SOURCE:
ORGANISM: Luciola cruciata and Phontinus pyralis
US-09-111-752-5

Query Match 85.0%; Score 2399; DB 3; Length 552;
Best Local Similarity 83.1%; Pred. No. 2.6e-244;
Matches 451; Conservative 53; Mismatches 39; Indels 0; Gaps 0;

QY 1 MENMENDENIVGPEPPYPIEBSAGALRYKMDRYAKLGAIAFTNALGVDTYVAEYLE 60
DB 1 MENMENDENIVGPKFPYPIEBSAGTQLRKMYRYAKLGAIAFTNAVTGVDYSVAEYLE 60
QY 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLGAGLFIGVGVAPTNEIYTLRELVHSL 120
DB 61 KSCCLGKALQNYGLVVDGRIALCSECEFFIPVLGAGLFIGVGVAPTNEIYTLRELVHSL 120
QY 121 GISKPTIVFSSKKGLDKVITVQKTVAITKIVILDSKVDYRGVQSDNFIKNTTGGK 180
DB 121 GISKPTIVFSSKKGLDKVITVQKTVAITKIVILDSKVDYRGVQSDNFIKNTTGGK 180
QY 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
DB 181 SSFKTVEVNRKEQVALIMNSGSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAIL 240
QY 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEETFLKTDYKCSVILVPTLFAILNRS 300
DB 241 TVVPFHGFGMFTTGLYTCGPRIVMLTKFDEETFLKTDYKCSVILVPTLFAILNRS 300
QY 541 LKK 543

QY 301 ELLDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSIIITPEGDDK 360
DB 301 TLIDKVDLSNLHIEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSIIITPEGDDK 360
QY 361 PGASGKVPFLFAKVVDLTGKTLGNRRGECVCGPMLMKGYVONPEATRIIIEEGWL 420
DB 361 PGAVGKVPFFFAKVVDLTGKTLGNRRGECVCGPMLMKGYVONPEATRIIIEEGWL 420
QY 421 HTGDIYDEEKEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
DB 421 HSGDIAYWDEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAG 480
QY 481 EIPGAVVLEKGSMTKEKEMDYASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREI 540
DB 481 ELPAAVWLEHGKMTKEKEIVDYVASQVTTAKKLRGGVVVDEVPKGLTGKIDGKAIREI 540
QY 541 LKK 543
DB 541 LK 543

RESULT 23
US-09-380-061B-18
; Sequence 18, Application US/09380061B
; Patent No. 6265177
; GENERAL INFORMATION:
; APPLICANT: SQUIRRELL, DAVID JAMES
; WHITE, PETER JOHN
; MURRAY, JAMES AUGUSTUS HENRY
; LOWE, CHRISTOPHER ROBIN
; TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
; NUMBER OF SEQUENCES: 21
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: NIXON & VANDERHYE P.C.
; STREET: 1100 NORTH GLEBE ROAD
; CITY: ARLINGTON
; STATE: VIRGINIA
; COUNTRY: U.S.A.
; ZIP: 22201-4714
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.25 (EPO)
; CURRENT APPLICATION DATA: US/09/380, 061B
; APPLICATION NUMBER: PCT/GB98/01026
; FILING DATE: 7-APR-1998
; APPLICATION NUMBER: GB 9707468.8
; FILING DATE: 11-APR-1997
; ATTORNEY/AGENT INFORMATION:
; NAME: SADOFF, B. J.
; REGISTRATION NUMBER: 36,663
; REFERENCE/DOCKET NUMBER: 124-725
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (703)816-4000
; TELEFAX: (703)816-4100
; INFORMATION FOR SEQ ID NO: 18:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 548 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; SEQUENCE DESCRIPTION: SEQ ID NO: 18:
US-09-380-061B-18

Query Match 83.0%; Score 2344.5; DB 3; Length 548;
Best Local Similarity 82.1%; Pred. No. 1.5e-238;
Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;

QY 4 MENDENIVGPEPPIEIEGSAGQLRKYMDRVAKLGAIAFTNALTGVDTYAEYLEKSC 63
DB 3 MEKENVYGLPPIEIEGSAGQLRKYMDRVAKLGAIAFTNALTGVDTYAEYLEKSC 62
QY 64 CLGALXNYGLVDPRIALCSENECEFFIPVLAGLFTGVGAPNNEYITRELVHSLGIS 123
DB 63 RLAEAMKNFGMKPEHIALCSENECEFFIPVLAGLYIGVAVAPTNETITRELNHSLGIA 122
QY 124 KPTTVFSSKGLDKVITVQKTVTAIKTIVILDSKVYRQYOSMDNFIKONTPOQFGKSSF 183
DB 123 OPTIVFSRKLGPVLEEVQKTVTCIKIVILDSKVNFGGDCMETFIKXVELGFGQSSP 182
QY 184 KTEV- NRKEQVALIMNSSSGTGLPKGVQLTHENAVTRFSHARDPIYGNQVSPGTAILTV 242
DB 183 VPIDVNRKQHVALIMNSSSGTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTAILTV 242
QY 243 VPFHGFQMTTGLYTCGFRIVMLTKFDEETFLTKTDYKCSSVILVPTLFAILNRSEL 302
DB 243 VPFHGFQMTTGLYFACGRVAVMLTKFDEELFURLTKYKCSVILVPTLFAILNRSEL 302
QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARFNLPGVRQGYGLTETTSIIITPEGDDKPG 362
DB 303 IDKFDLSNLVEIASGGAPLAKVEGEAVARRFNLPGVRQGYGLTETTSIIITPEGDDKPG 362
QY 363 ASGKVPFLFAKVVDLTGKTLGNRRGECVCGPMLMKGYVONPEATRIIIEEGWLHT 422
DB 363 ASGKVPFLFAKVVDLTGKTLGNRRGECVCGPMLMKGYVONPEATRIIIEEGWLHT 422
QY 423 GDIGYDEEKEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
DB 423 GDIGYDEEKEHFFIVDRLSLIIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDIAGEL 482
QY 483 PGAVVLEKGSMTKEKEMDYASQVSNKRLRGVRFVDEVPKGLTGKIDGKAIREILK 542
DB 483 PGAVVMEKGTMTKEKEIVDYVNSQVNVNHNKRLRGVRFVDEVPKGLTGKIDAKVIREILK 542
QY 543 KPVAKM 548
DB 543 KPQAKM 548

RESULT 23
US-08-487-183A-16
; Sequence 16, Application US/08487183A
; Patent No. 6387675
; GENERAL INFORMATION:
; APPLICANT: WOOD, Keith V.
; APPLICANT: GRUBER, Monika G.
; TITLE OF INVENTION: MUTANT LUCIFERASES
; NUMBER OF SEQUENCES: 16
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Foley & Lardner
; STREET: P.O. Box 1497
; CITY: Madison
; STATE: WI
; COUNTRY: USA
; ZIP: 53701-1497
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent in Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/487,183A
; FILING DATE: 06-JUN-1995
; CLASSIFICATION: 435
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/467,773
; FILING DATE: 06-JUN-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/177,081
; FILING DATE: 03-JAN-1994
; ATTORNEY/AGENT INFORMATION:

NAME: Scanlon, William J.
 REGISTRATION NUMBER: 31,136
 REFERENCE/DOCKET NUMBER: 19017/166
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (608) 258-5035
 TELEFAX: (608) 258-4258
 INFORMATION FOR SEQ ID NO: 16:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 548 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 US-08-487-183A-16

Query Match 83.0%; Score 2344.5; DB 4; Length 548;
 Best Local Similarity 82.1%; Pred. No. 1.5e-238;
 Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPPYPIEESGAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 63
 Db 3 MEKENVYVGLPFPYPIEESGAGLQHKYMQYAKLGAIAFNSALTGVDISYQYFDITC 62
 QY 64 CLGKALKNYGLVVDGRIALCSNCEEFFIPVLGLFYGIVGVAFTNBIYTLRELHSLGIS 123
 Db 63 RLAEAMKNFGKPEEHIALCSNCEEFFIPVLGLYIGVAVFTNBIYTLRELHSLGIS 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGPKGSF 183
 Db 123 OPTIVFSSRKLGPVLEQKTVTCIKKIVILDSKVNFGGHDCEMETFIKXVELGFPSSF 182
 QY 184 KTVEV-NRKEQVALIMNSGSGTGLPKGVQLTHNAVTRFSHARDPIYGNQVSPGTALT 242
 Db 183 VPIDVNRKQHVALLMNSGSGTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTALT 242
 QY 243 VPFHGFGMTTGLYTCGFRIVMLTKFDEETFLKTDYKCSVILVPTLFAILNRSEL 302
 Db 243 VPFHGFGMTTGLYFACGVYVVMVLTDFBELFLRTLDYKCTSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 QY 363 ASGNVPLFKAKVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEGWLHT 422
 Db 363 ASGNVPLFKAKVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEGWLHT 422
 QY 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
 Db 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
 QY 483 PGAVVLEKSGKTEKEMDMYVASQVSNKRLGGVRFVDEVPKGLTGKIDKAIRELK 542
 Db 483 PGAVVMEKSGKTEKEIVDYNVSQVNNHRLGGVRFVDEVPKGLTGKIDKAIRELK 542
 QY 543 KPQAKM 548
 Db 543 KPQAKM 548

RESULT 24

US-09-396-154-29
 Sequence 29, Application US/09396154
 Patent No. 6602677
 GENERAL INFORMATION:
 APPLICANT: Wood, Keith V.
 APPLICANT: Hall, Mary P.
 TITLE OF INVENTION: Thermostable luciferases and methods of
 NUMBER OF INVENTION: production
 FILE REFERENCE: 341.012US1
 CURRENT APPLICATION NUMBER: US/09/396,154
 CURRENT FILING DATE: 1999-09-15
 EARLIER APPLICATION NUMBER: US 09/156,946
 EARLIER FILING DATE: 1998-09-18

EARLIER APPLICATION NUMBER: PCT/US98/19494
 EARLIER FILING DATE: 1998-09-18
 EARLIER APPLICATION NUMBER: US 60/059,379
 EARLIER FILING DATE: 1997-09-19
 NUMBER OF SEQ ID NOS: 93
 SOFTWARE: FastSeq for Windows Version 3.0
 SEQ ID NO 29
 LENGTH: 548
 TYPE: PRT
 ORGANISM: Luciola mingrelia
 US-09-396-154-29

Query Match 83.0%; Score 2344.5; DB 4; Length 548;
 Best Local Similarity 82.1%; Pred. No. 1.5e-238;
 Matches 448; Conservative 46; Mismatches 51; Indels 1; Gaps 1;
 QY 4 MENDENIVGPEPPYPIEESGAGALRYKMDRYAKLGAIAFTNALTGVDYTYAEYLEKSC 63
 Db 3 MEKENVYVGLPFPYPIEESGAGLQHKYMQYAKLGAIAFNSALTGVDISYQYFDITC 62
 QY 64 CLGKALKNYGLVVDGRIALCSNCEEFFIPVLGLFYGIVGVAFTNBIYTLRELHSLGIS 123
 Db 63 RLAEAMKNFGKPEEHIALCSNCEEFFIPVLGLYIGVAVFTNBIYTLRELHSLGIS 122
 QY 124 KPTIVFSSKGLDKVITVQKTVTAIKTIVILDSKVDYRGVQSMDFIKKNTPOGPKGSF 183
 Db 123 OPTIVFSSRKLGPVLEQKTVTCIKKIVILDSKVNFGGHDCEMETFIKXVELGFPSSF 182
 QY 184 KTVEV-NRKEQVALIMNSGSGTGLPKGVQLTHNAVTRFSHARDPIYGNQVSPGTALT 242
 Db 183 VPIDVNRKQHVALLMNSGSGTGLPKGVRIITHEGAVTRFSHAKDPIYGNQVSPGTALT 242
 QY 243 VPFHGFGMTTGLYTCGFRIVMLTKFDEETFLKTDYKCSVILVPTLFAILNRSEL 302
 Db 243 VPFHGFGMTTGLYFACGVYVVMVLTDFBELFLRTLDYKCTSVILVPTLFAILNRSEL 302
 QY 303 LDKYDLSNLVEIASGGAPLSKEIGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 Db 303 IDKFDLSNLTEIASGGAPLAKVEGEAVARRFNLPVGRQGYGLTETTSALITPEGDDKPG 362
 QY 363 ASGNVPLFKAKVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEGWLHT 422
 Db 363 ASGNVPLFKAKVIDLDTKTLGNRGEVCVKGPMKMGVNDPEATREIIDEGWLHT 422
 QY 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
 Db 423 GDIGYDEDEHFFIVDLRLKSLIKYGYQVPPAELESVLLQHPNIFDAGVAGVDPDAGEL 482
 QY 483 PGAVVLEKSGKTEKEMDMYVASQVSNKRLGGVRFVDEVPKGLTGKIDKAIRELK 542
 Db 483 PGAVVMEKSGKTEKEIVDYNVSQVNNHRLGGVRFVDEVPKGLTGKIDKAIRELK 542
 QY 543 KPQAKM 548
 Db 543 KPQAKM 548

RESULT 25

US-09-380-061B-20
 Sequence 20, Application US/09380061B
 Patent No. 6265177
 GENERAL INFORMATION:
 APPLICANT: SQUIRRELL, DAVID JAMES
 WHITE, PETER JOHN
 LOWE, CHRISTOPHER ROBIN
 MURRAY, JAMES AUGUSTUS HENRY
 TITLE OF INVENTION: ENZYME ASSAY FOR MUTANT FIREFLY LUCIFERASE
 NUMBER OF SEQUENCES: 21
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: NIXON & VANDERHVE P.C.
 STREET: 1100 NORTH GLEBE ROAD
 CITY: ARLINGTON
 STATE: VIRGINIA

Search completed: July 22, 2004, 08:21:22
Job time : 17.6667 secs

COUNTRY: U.S.A.
ZIP: 22201-4714
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25 (EPO)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/380,061B
FILING DATE: 25-Aug-1999
CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB98/01026
FILING DATE: 7-APR-1998
APPLICATION NUMBER: GB 9707468.8
FILING DATE: 11-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: SADOFF, B. J.
REGISTRATION NUMBER: 36,663
REFERENCE/DOCKET NUMBER: 124-725
TELECOMMUNICATION INFORMATION:
TELEPHONE: (703) 816-4000
TELEFAX: (703) 816-4100
INFORMATION FOR SEQ ID NO: 20:
SEQUENCE CHARACTERISTICS:
LENGTH: 547 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
SEQUENCE DESCRIPTION: SEQ ID NO: 20:
US-09-380-061B-20

Query Match	69.7%	Score 1968.5	DB 3	Length 547
Best Local Similarity	69.2%	Pred. No. 8.2e-199		
Matches	373	Conservative 74	Mismatches 15	Indels 1
QY	4	MENDENTVYGPPEYPIEESGAGACLKRYMDRYAKL-GAIAFTNALTCVDVTVYAEYLEKS	62	
DB	1	MEDAKNIMHGAPPYPILEDGTAGQLHKMKRYAQVGTIAFTDAHAENVITYSEYFEMA	60	
QY	63	CCIGEAALKNYGLVVDGRIALCSENCBFFIVLVLACFLTIGVGVAPTNIYITLRELIVHSLGI	122	
DB	61	CRLAETMKRYGLGLQHLIYAVCSNSIQFFMFVCGALFIGVGVASTINDIYNERELVNSLSI	120	
QY	123	SKPTIVSVSSKKGLDKVITVQKTTAIVTILVILDSKVDYRGVQSDMNFIKONTPOFGKSS	182	
DB	121	SQPTIVSCSKALQKILGVQKPLPIIQKIVILDSREDYMGQSMYSFTIESHLPAGFNEYD	180	
QY	183	FKTVENVNRKEQVALIMNSSSGSTGPKGVQLTHENAVTRFSSHARDPIYGNQVSPGTAILTV	242	
DB	181	YIPDSFRETATALIMNSSSGTGPUGVELTHQNVCFRSHCRDPVFGNQIIPDTAILTV	240	
QY	243	VPFHHGFCMFTLGLYLTCGFRIVMLTKFDEETFLKTLQDYKCSSVILVPTTLFALINRSEL	302	
DB	241	IPFHHGFCMFTLGLYLTCGFRIVLMRYFEEBELFRLSLQDYKIQSALLVPTLIFSFEAKSTL	300	
QY	303	LDKYDLNLNVEIASGAPLSEIKIEAVARRNRLPGVROGYGLTETTSIIITTPGDDKPG	362	
DB	301	VDKYDLNLNIEIASGAPLAEVGEAVAKRFKLPGRQGYGLTETTSIIITTPGDDKPG	360	
QY	363	ASGKVWPLFKAVDLDPTKTLGNPRGECVCKGPEMLMKGVVDNPEATREIITDEEGLMHT	422	
DB	361	ACGKVWPFPSAKIVDLDTGKTLGNVQRGELCVKGPMMKGVVNNPEATSAIIDKDGMLHS	420	
QY	423	GDIYGYDEEKHFFIVDLRLKSLIKYGYVPPPAELESVLLQHENIFPDAGVAGVDPPIAGEL	482	
DB	421	GDIAYYDKDGHFFIVDLRLKSLIKYGYVPPPAELESIILOHFFIFDAGVAGIPDPDAGEL	480	
QY	483	PGAVVLEKGSMTKEFVMDVYVAGSVNAKRLRGVRVFDVEVPKGLTGKIDGKAIRELL	541	
DB	481	PAAVVLEEGKMTQEVEVMDVAGVATSKRLRGVGFVEVDPKGLTGKIDGKAIRELL	539	

